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PSYCHOLOGY AND PHILOSOPHY

I.—MR. BERTRAND RUSSELL'S *OUTLINE OF PHILOSOPHY.*

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MR. BERTRAND RUSSELL'S *An Outline of Philosophy* (which, perhaps, would have been better entitled *An Outline of My Philosophy*) bristles with controversial statements; and of the arguments it is often difficult to see the conclusiveness and sometimes even the nature. No adequate comments could be shorter than the book itself. Partly for this reason and partly because the weight of Mr. Russell's authority with the public is so great, I have obtained the Editor's leave to substitute for the critical notice which he asked me to write a short article intended to draw attention to two of Mr. Russell's main doctrines and to offer reasons for thinking them untenable. The one concerns the nature of knowledge and, more especially, of perception; the other concerns the nature of the physical world.

It is, of course, difficult to give an outline of philosophy, as distinct from an outline of the greater philosophies, which is not in substance a summary of the writer's philosophy. But Mr. Russell seems to have tried so little to avoid this difficulty that it seems not illegitimate to begin by expressing certain reflections which his book has prompted in an individual reader. I have, in reading it, found myself again and again reminded of a phrase applied by a non-philosophical colleague to certain philosophers, *viz.*, "those who say they believe what no man really can". I have found myself constantly wondering whether even Mr. Russell himself *believes* a fraction of the things which he implies that he

does, and whether he could not best render his great acuteness of use to the world by scrapping all his present views and, in Cartesian manner, making a fresh start. I have even more been led to wonder whether a beginner would be well advised to introduce himself to philosophy by means of Mr. Russell's *Outline*, unless he is of those exceptional beings who is stung into trying to find out the truth for himself by reflecting that "whatever the truth may be, it cannot be this". Otherwise, I have felt, the beginner will be led to think that much is common ground among philosophers which is highly controversial, as regards the nature both of the main problems and of their solution.

Mr. Russell's account of the nature of knowledge is based on a distinction the reality of which he takes for granted, *viz.*, a distinction between knowledge regarded objectively, *i.e.*, viewed or observed by an observer other than the knower himself, and so observed as the behaviourist professes to observe it, and knowledge regarded subjectively, *i.e.*, viewed or observed by the knower himself. In thus presupposing that knowledge and what he considers to be its special forms such as perception, memory, and inferential knowledge, can be regarded in both these ways, Mr. Russell is, of course, implying that knowledge is essentially complex, having at least two characteristics, one of which, however, can be directly known only by the knower himself, while the other can be directly known only by another knower. For knowledge, like anything else, can only be known to have a characteristic, if it has it whether it is known to have it or not, and the mere fact that two characteristics of something can only be directly known by different knowers, far from preventing its possession of both these characteristics, requires it to have them, whether it is known to have them or not.

In accordance with this distinction, Mr. Russell offers in Part I. an account of man, including man's knowledge, regarded objectively, and he follows this up in Part III. with an account of man, including man's knowledge, regarded from within. He considers the former account the more fruitful, although since he considers that man *can* be regarded in both aspects, it is not obvious why he does not consider both accounts equally necessary.

> "Knowledge, traditionally, has been viewed from within, as something which we observe in ourselves rather than as something which we can see others displaying. When I say that it has been so viewed, I mean that this has been the practice of philosophers; in ordinary life, people have been more objective. In ordinary life, knowledge is something which can be tested by examinations, that is to say, it

> consists in a certain kind of response to a certain kind of stimulus. This objective way of viewing knowledge is, to my mind, much more fruitful than the way which has been customary in philosophy. I mean that, if we wish to give a definition of 'knowing,' we ought to define it as a manner of reacting to the environment, not as involving something (a 'state of mind') which only the person who has the knowledge can observe. It is because I hold this view that I think it best to begin with Man and his environment, rather than with those matters in which the observer and the observed must be the same person. Knowing, as I view it, is a characteristic which may be displayed in our reactions to our environment; it is therefore necessary first of all to consider the nature of these reactions as they appear in science."[1]

Nevertheless he considers that the behaviourist contention that knowledge can only be regarded in this objective way goes too far.

> "This philosophy, of which the chief protagonist is Dr. John B. Watson, holds that everything that can be known about man is discoverable by the method of external observation, *i.e.*, that none of our knowledge depends, essentially and necessarily, upon data in which the observer and the observed are the same person. I do not fundamentally agree with this view, but I think it contains much more truth than most people suppose, and I regard it as desirable to develop the behaviourist method to the fullest possible extent. I believe that the knowledge to be obtained by this method, so long as we take physics for granted, is self-contained, and need not, at any point, appeal to data derived from introspection, *i.e.*, from observations which a man can make upon himself but not upon anyone else. Nevertheless, I hold that there are such observations and that there is knowledge which depends upon introspection."[2]

In actual fact the detailed account given in Part I. of what Mr. Russell maintains to be knowledge, and its special forms, regarded objectively, is really an account of something which is not knowledge at all, *viz.*, the physical process which is usually thought of, and referred to, as the physical conditions of knowledge, and the underlying presupposition of this account must be that this physical process *is* the knowledge of which it is usually said to be the physical conditions. What may be called, at the lowest, the paradox of this presupposition is not mitigated by urging, as no doubt Mr. Russell would, that *e.g.*, the physical conditions of a certain process of perception are the process of perception *as viewed by another observer*. For if they are this process as viewed by an observer, they must be this process, whether it be thus viewed or not. We are, therefore, naturally led to expect that when Mr. Russell comes to give an account of knowledge, known or observed from within, he will maintain, or at least imply, that the mental process in which, whatever

[1] Pp. 20-21. [2] P. 73.

he may say, knowledge consists and which we know in being self-conscious, *is* that physical process which is usually thought of as its physical conditions. And this turns out to be the case.

In attempting to consider Mr. Russell's account of knowledge, it will be necessary, for brevity's sake, to confine attention to his account of perceptive knowledge. And the limitation is defensible partly because he himself constantly insists on the importance of distinguishing what we know by observing, *i.e.* perceiving, it and what we know only as an inference from what we observe, and partly because many of the comments applicable to his account of perception are equally applicable to his account of other forms of knowledge.

Although certain phrases suggest that Mr. Russell is only maintaining that what are usually called the physical conditions of knowledge, though not themselves the knowledge of which they are the conditions, are evidence of that knowledge to another observer, the main trend of his statements is decisive.

> "Suppose you are watching a race, and at the appropriate moment you say 'They're off'. This exclamation [subsequently said to be constituted by the movements of your throat and tongue][1] is a reaction to the [physical] environment, and is taken to show knowledge if it is made at the same time as others make it. . . . This immensely complicated occurrence [*viz.*, what has been happening in the physical world according to science] is, nevertheless, about the simplest *example* of knowledge that could possibly be given."[2]

In the same vein Mr. Russell says:—

> "Physiological inference (*sic*), in its simplest form, means this: given a stimulus S, to which, by a reflex, we react by a bodily movement R, and a stimulus S′ with a reaction R′, if the two stimuli are frequently experienced together, S will in time produce R′. That is to say, the body will act as if S′ were present."[3]

Again, in a chapter entitled "Perception objectively regarded," Mr. Russell writes as follows:—

> "Perception is a species of a wider genus, namely *sensitivity*. Sensitivity is not confined to living things; in fact it is best exemplified by scientific instruments. A material object is said to be 'sensitive' to such and such a stimulus if, when that stimulus is present, it behaves in a way noticeably different from that in which it behaves in the absence of the stimulus. A photographic plate is sensitive to light, a barometer is sensitive to pressure, a thermometer to temperature, a galvanometer to electric current, and so on. In all these cases, we might say, in a certain metaphorical sense, that an instrument 'perceives' the stimulus to which it is sensitive. We do not

[1] Phrases in square brackets inserted in quotations from Mr. Russell are intended as elucidations of his meaning based on the context.

[2] P. 21. The italics of '*example*' are mine. [3] P. 13.

in fact say so: we feel that perception involves something more than we find in scientific instruments. What is this something more?

"The traditional answer would be: consciousness. But this answer, right or wrong, is not what we are seeking at the moment, because we are considering the percipient as he appears to an outside observer, to whom his 'consciousness' is only an inference. Is there anything in perception as viewed from without that distinguishes it from the the sensitivity of a scientific instrument? . . . The chief difference . . . is that living bodies are subject to the law of association or of the 'conditioned reflex'."[1]

Mr. Russell's elucidation of the difference is obscure. The 'sensitivity' of a thing can only mean its capacity of being affected or acted on by something else, *i.e.*, the capacity of being caused by some other thing to undergo a change of state, as when the state of a photographic plate is altered by the action upon it of a source of light. And the view implicit in what Mr. Russell goes on to say appears to be as follows: In some cases something sensitive A is not only affected by a stimulus, but reacts on its environment, *i.e.*, it is not only affected by a thing X but in consequence, it also reacts on some other thing Y. Thus an automatic machine is not only affected by the penny inserted but causes chocolate to emerge. But where this reaction occurs two species of case have to be distinguished. The character of the reaction may depend wholly on the nature and state of the body called the stimulus, as happens in the case of the automatic machine, and also when an intense source of light acting on the muscles of the eye at birth causes the muscles to contract the iris. In such cases the process is what is called a reflex or an unconditioned reflex, but it is not perception. But the character of the reaction may depend partly on the sensitive body A's being also affected by some body other than the stimulus in consequence of something called 'association'—whatever that term may mean when applied to bodies—as when the eye of a child after a certain age follows the movement of a source of light; and in such cases the process is what is called a conditioned reflex and *is* perception.[2]

In a similar way in a chapter entitled 'Memory Objectively Regarded' he treats of memory "so far as it can be

[1] Pp. 62-63.

[2] It is hardly necessary to point out that Mr. Russell and those whom he follows could not have arrived at this view of what distinguishes what they consider to be perception objectively regarded from other physical processes, unless they had already distinguished processes of perception proper, or what they call perception, subjectively regarded, from other mental processes, and had come to think of processes of perception proper as dependent on these special physical processes which they are maintaining to be perception objectively regarded.

made a matter of external observation," *i.e.*, as a physical fact. Again in Chapter VIII., entitled "Knowledge Behaviouristically Regarded," knowledge gets its turn. Here, unfortunately, Mr. Russell's language is very indefinite, and though he subsequently [1] speaks of having given a behaviourist definition of knowledge, he does not in fact give one. Nevertheless, in this chapter, although he betrays a feeling of uneasiness by habitually applying the term "knowledge" to certain physical processes only in inverted commas, a practice as unsatisfactory as the use of words in Pickwickian senses, it is clear that he means that knowledge objectively regarded *is* a physical process.

In Chapter XIX. of Part III., entitled "The Introspective Analysis of Perception," Russell gives his account of perception viewed from within. He invites us [2] by an act of introspection to attend to the act of perception which would ordinarily be described by saying "I see a triangle," and asks us to consider what in this act of introspection we are immediately certain of. He urges that since the meaning of "I" depends on memory and expectation, "I" should be omitted from the description of this something, and we should at least substitute, "A triangle is being seen." He then urges that since "seen," as ordinarily used, is a causal word suggesting something dependent on the eyes, this term should disappear also, and that since all objects of sight have a common quality, which no objects of touch or hearing have, we should replace, "A triangle is being seen" by "There is a visual triangle." In other words, what we refer to as our seeing a triangle is really a visual triangle, this visual triangle being what we become immediately certain of in introspection. This visual triangle is a species of what Mr. Russell calls a "percept." [3] Unfortunately he gives no explanation of what he means by a "percept," but judging by his instances, *e.g.*, a colour, patches of colour situated in visual space, [4] a visual triangle, [5] sounds, [6] he appears to mean what Locke would have called the idea of a secondary quality, and although in Chapter XIX. he is anxious to distinguish perception and sensation, he would, if pressed, probably accept "a sensation" or at least "a complication of sensations," as an equivalent to a "percept." [7] Thus according to Mr. Russell a perception viewed from within is a sensation or, at least, a complication of sensations, or, if he would object to this statement, it is the genus of which

[1] *E.g.*, p. 225. [2] Pp. 215-216. [3] *Cf.* p. 139.
[4] P. 146. [5] P. 216. [6] P. 144.
[7] *Cf.* p. 145 *ad fin.*

colours, sounds, tastes, smells and feelings of touch are the species.

Here it must at least be allowed that Mr. Russell is not describing perception at all, but, if anything, what we perceive. For at best it can only be true that colours or sounds are what we see or hear, and not our seeing or hearing something. For the same reason it must equally be allowed that Mr. Russell's previous description of perception regarded from without is mistaken. A physical process in our brain cannot *be* a perception, but at best only what we perceive. Further, if the two accounts of perception are considered in combination, we see that Mr. Russell is involved in maintaining that a certain process in our brain and what he calls a percept, *e.g.*, a patch of colour, or a sound, are one and the same thing.

The doctrine is so astonishing that it is difficult to believe that Mr. Russell can be maintaining it. Yet Chapters XII. and XIII., the really critical chapters on perception, are in fact devoted to expounding it.

In Chapter XII. Mr. Russell develops as if they were one what are really two different lines of argument. These are to the effect (1) that if the behaviourist account of perception is true, perception will inevitably be inaccurate, and (2) that the behaviourist is mistaken about what it is that an observer observes, *i.e.*, what it is that a percipient perceives in the mental and only legitimate sense of "perceive," and that in consequence the behaviourist account of perception, though true as far as it goes, is not the whole truth. Here the reader will find himself unable to follow Mr. Russell's thought, unless he is prepared to allow that Mr. Russell is tacitly presupposing what he afterwards goes on to maintain explicitly, *viz.*, that certain brain processes and "percepts" are one and the same thing.

> "According to the [behaviourist] theory of Chapter V., it is possible to perceive things that are not in spatial contact with the body. There must be a reaction to a feature of the environment, but that feature may be at a greater or less distance from the body of the percipient; we can even perceive the sun and stars, within the limits of the definition. . . .
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> "When we consider perception—visual or auditory—of an external event, there are three different matters to be examined. There is first the process in the outside world, from the event to the percipient's body; there is next the process in his body, in so far as this can be known by an outside observer; lastly, there is the question, which must be faced sooner or later, whether the percipient can perceive something of the process in his body which no other observer could perceive. We will take these points in order.
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> "If it is to be possible to 'perceive' an event not in the per-

cipient's body, there must be a physical process in the outer world such that, when a certain event occurs, it produces a stimulus of a certain kind at the surface of the percipient's body. . . .

"If there were not, in the physical world, processes spreading out from centres and retaining certain characters practically unchanged, it would be impossible for different percipients to perceive the same object from different points of view, and we should not have been able to discover that we all live in a common world.

"We come now to the process in the percipient's body, in so far as this can be perceived by an outside observer. This raises no new philosophical problems, because we are still concerned, as before, with the perception of events outside the observer's body. The observer, now, is supposed to be a physiologist, observing, say, what goes on in the eye when light falls upon it. His means of knowing are, in principle, exactly the same as in the observation of dead matter. An event in an eye upon which light is falling causes light-waves to travel in a certain manner until they reach the eye of the physiologist. They there cause a process in the physiologist's eye and optic nerve and brain, which ends in what he calls 'seeing what happens in the eye he is observing'. But this event, which happens in the physiologist, is not what happened in the eye he was observing; it is only connected with this by a complicated causal chain. Thus our knowledge of physiology is no more direct or intimate than our knowledge of processes in dead matter; we do not know any more about our eyes than about the trees and fields and clouds that we see by means of them. The event which happens when a physiologist observes an eye is an event in him, not in the eye that he is observing."[1]

Up to this point Mr. Russell can be considered to be referring to perception as if it were a physical process in the brain; but he now goes on to treat it as a mental process, and to imply that this mental process and the brain process are the same.

"We come now at last to the question of self-observation. . . . No one can deny that we know things about ourselves which others cannot know unless we tell them. We know when we have toothache, when we feel thirsty, what we were dreaming when we woke up, and so on. Dr. Watson might say that the dentist can know we have toothache by observing a cavity in a tooth. . . . But even then his knowledge has a different character from mine. His knowledge is an inference, based upon the inductive law that people with such-and such cavities suffer pain of a certain kind. But this law cannot be established by observation of cavities alone; it requires that, where these are observed, the people who have them should tell us that they feel toothache."[2]

"Let us consider Dr. Watson watching a rat in a maze. He means to be quite objective, and report only what really goes on. . . . But I think he fails to realise that almost as long and difficult an inference is required to give us knowledge of the rat's bodily movements as to give us knowledge of its 'mind'. And what is more, the data from which we must start in order to get to know the rat's bodily movements are data of just the sort that Dr. Watson wishes to avoid, namely private data patent to self-observation but not patent to any one except the observer. This is the point at which, in my opinion, behaviourism *as a final philosophy* breaks down."[3]

[1] Pp. 129-132. [2] Pp. 132-133. [3] Pp. 134-135.

Here by "the data from which we must start in order to get to know the rat's bodily movements" Mr. Russell must mean those facts the direct, *i.e.*, perceptive, knowledge of which forms the premisses from which we infer the rat's movements. And he must consider these facts to consist in what a few pages later[1] he calls percepts, *viz.*, certain patches of colour. This is evident not only from his previous statement about the knowledge of our toothache which only the actual sufferer can have directly, but also from his subsequent statement[2] that our knowledge of the physical world, if it is to be made as reliable as possible, must start from *percepts*. It is also clear that if this criticism of Dr. Watson is connected with what he has already said, he must be implying that these patches of colour are the process in our (the observer's) brain of which he has been speaking. This identification, too, is implied in the next paragraph, in which he refers to the data patent to self-observation as if they were brain processes.

> "When several people simultaneously watch a rat in a maze, or any other example of what we should naturally regard as matter in motion, there is by no means complete identity between the physical events which happen at the surface of their eyes and constitute the stimuli to their perceptions. There are differences of perspective, of light and shade, of apparent size,[3] and so on, all of which will be reproduced in photographs taken from the places where the eyes of the several observers are. These differences produce differences in the reactions of the observers—differences which a quite unthinking person may overlook, but which are familiar to every artist. . . . Our knowledge of the physical world, therefore, must be contained [*i.e.*, included] in our reaction to the stimulus which reaches us across the intervening medium. . . . Since the stimulus differs for different observers, the reaction also differs; consequently, in all our perceptions of physical processes there is an element of subjectivity. If, therefore, physics is true in its broad outlines (as the above argument supposes), what we call 'perceiving' a physical process is something private and subjective, at least in part, and is yet the only possibly starting-point for our knowledge of the physical world."[4]
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> "Our non-inferential knowledge of an object cannot be more accurate than our reaction to it, since it is part of that reaction. And our reaction cannot be more accurate than the stimulus. But what on earth can you mean by the 'accuracy' of a stimulus? I may be asked. I mean just the same as by the accuracy of a map or a set of statistics. I mean a certain kind of correspondence. One pattern is an accurate representation of another if every element of the one can be taken as the representative of just one element of the other, and the relations that make the one set into a pattern correspond with relations making

[1] P. 139. [2] P. 141.

[3] Mr. Russell does not explain how "differences of perspective, of light and shade, of apparent size" can have a *physical* meaning or how there can be a species of size called "apparent size".

[4] Pp. 135-136.

> the other set into a pattern. . . . And whatever limitations there are to the accuracy of our impressions are limitations to the accuracy of our non-inferential knowledge of the external world."[1]

Mr. Russell next takes the opportunity to make a point which must be described as astonishing unless we allow that he is really treating a certain brain process first as if it was identical with certain conjectures about the cause of that brain process drawn from a knowledge of that process which we do not possess, and finally, as if it was identical with that knowledge itself.

> "If we accept the definition of knowledge given in Chapter VIII., which was framed so as to be as favourable as possible to behaviourism, a given reaction may be regarded as knowledge of various different occurrences. When we see Jupiter, we have, according to the definition, knowledge of Jupiter, but we also have knowledge of the stimulus at the surface of the eye, and even of the process in the optic nerve. For it is arbitrary at what point we start in the process leading to a certain event in the brain: this event, and the consequent bodily action, may be regarded as a reaction to a process starting at any earlier point. And the nearer our starting-point is to the brain, the more accurate becomes the knowledge displayed in our reaction. A lamp at the top of a tall building might produce the same visual stimulus as Jupiter, or, at any rate, one practically indistinguishable from that produced by Jupiter. . . . Thus when we think we see Jupiter, we may be mistaken. We are less likely to be mistaken if we say that the surface of the eye is being stimulated in a certain way, and still less likely to be mistaken if we say that the optic nerve is being stimulated in a certain way. We do not eliminate the risk of error completely unless we confine ourselves to saying that an event of a certain sort is happening in the brain; this statement may still be true if we see Jupiter in a dream."[2]

From this point onwards the identification of percept and brain process becomes explicit.

> "But, I shall be asked, what do you know about what is happening in the brain? Surely nothing. Not so, I reply. I know about what is happening in the brain exactly what naïve realism thinks it knows about what is happening in the outside world."[3]

In other words: where we are said to see a rat moving in front of us, we really see certain patches of colour, and these patches are a physical process in our brain. The behaviourist, therefore, is right in thinking, with the naïve realist, that what we see is a physical process. But, together with the naïve realist, he is mistaken in thinking that the physical process which we see is the movement of the rat; the truth is that it is the process in our brain which the rat's movement indirectly excites.

It therefore appears that Mr. Russell is maintaining the

[1] P. 137. [2] P. 138. [3] P. 138.

identity of two things, *viz.*, a percept and a brain process, which can no more be identical than can $\sqrt{-1}$ and a piece of soap, or the end of a line and an emotion, and of which, whether they are identical or not, neither can possibly *be* a perception, as distinct from something which we perceive. The view seems so extravagant that it is difficult to be confident that Mr. Russell holds it. But the next chapter leaves no room for doubt.

In this chapter, which is entitled *Physical and Perceptual Space*, Mr. Russell appears in effect to endeavour to give plausibility to this impossible view by advancing another view equally impossible.

> "The gist of the matter is that percepts, which we spoke about at the end of last chapter, are in our heads; that percepts are what we can know with most certainty; and that percepts contain [*i.e.*, spatially include] what naïve realism thinks it knows about the world.
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> "But when I say that my percepts are in my head, I am saying something which is ambiguous until the different kinds of space have been explained, for the statement is only true in connexion with *physical* space. There is also a space in our percepts, and of this space the statement would not be true. When I say that there is space in our percepts, I mean nothing at all difficult to understand. I mean—to take the sense of sight, which is the most important in this connexion—that in what we see at one time there is up and down, right and left, inside and outside. If we see, say, a circle on a blackboard, all these relations exist within what we see. The circle has a top half and a bottom half, a right-hand half and a left-hand half, an inside and an outside. These relations alone are enough to make up a space of sorts. . . . The point that concerns us is that a man's percepts are private to himself: what I see, no one else sees; what I hear, no one else hears; what I touch, no one else touches; and so on. True, others hear and see something very like what I hear and see, if they are suitably placed; but there are always differences. Sounds are less loud at a distance; objects change their visual appearance according to the laws of perspective. Therefore it is impossible for two persons at the same time to have exactly identical percepts. It follows that the space of percepts, like the percepts, must be private; there are as many perceptual spaces as there are percipients. My percept of a table is outside my percept of my head, in my perceptual space; but it does not follow that it is outside my head as a physical object in physical space. Physical space is neutral and public: in this space, all my percepts are in my head, even the most distant star *as I see it*. Physical and perceptual space have relations, but they are not identical, and failure to grasp the difference between them is a potent source of confusion." . . .
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> "What you see when you see a star is just as internal as what you feel when you feel a headache. That is to say, it is internal from the standpoint of *physical* space. It is distant in your private space, because it is not associated with sensations of touch, and cannot be associated with them by means of any journey you can perform.
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> "Your own body, as known to you through direct experience, is quite different from your own body as considered in physics. You

know more about your own body than about any other through direct experience, because your own body can give you a number of sensations that no other body can, for instance all kinds of bodily pains. But you still know it only through sensations; apart from inference, it *is* a bundle of sensations, and therefore quite different *prima facie*, from what physics calls a body.

"Most of the things you see are outside what you see when (as one says) you see your own body. That is to say: you see certain other patches of colour, differently situated in visual space, and say you are seeing things outside your body. But from the point of view of physics, all that you see must count as inside your body; what goes on elsewhere can only be inferred. Thus the whole space of your sensible world with all its percepts counts as one tiny region from the point of view of physics. . . .

"Each person carries about a private space of his own, which can be located in physical space by indirect methods, but which contains no place in common with another person's private space. . . .

"To make the matter definite, let us suppose that a physiologist is observing a living brain. . . . It is natural to suppose that what the physiologist sees is in the brain he is observing. But if we are speaking of physical space, what the physiologist sees is in his own brain. It is in no sense in the brain that he is observing, though it is in the percept of that brain, which occupies part of the physiologist's perceptual space. Causal continuity makes the matter perfectly evident. . . . The physiologist sees what he is observing only after the light-waves have reached his eye; therefore, the event which constitutes his seeing comes at the end of a series of events which travel from the observed brain into the brain of the physiologist. We cannot, without a preposterous kind of discontinuity, suppose that the physiologist's percept, which comes at the end of this series, is anywhere else but in the physiologist's head. . . ."

"In fact, everything that we can directly observe of the physical world happens inside our heads, and consists of 'mental' events in at least one sense of the world 'mental'. It also consists of events which form part of the physical world."[1]

The doctrine is quite plain: when I am looking at a table, though the patches of colour which form what I see and are my percept of (*i.e.*, caused by) a table are outside those patches which are my percept of, *i.e.*, caused by, my head in my private visual space, they are nevertheless inside my head in physical space and the physicist is right in regarding them thus. My percept, thus regarded, is a brain process; at the same time the process in respect of the characteristic in which I apprehend it directly, *i.e.*, perceive it, is a bundle of sensations, and so it turns out that my brain process as known to me in perception is quite different[2] from that process as it is rightly regarded by the physicist.

It is hardly necessary to point out that the view cannot possibly be true. Whatever certain patches of colour are,

[1] Pp. 143-148.

[2] Mr. Russell's qualification of "quite different" by "*prima facie*" is not justified by his argument.

they are not bodily processes; and whatever bodily processes are, they are not patches of colour. In fact the reader is left chiefly puzzled to discover how Mr. Russell can have ever come to persuade himself that the one may conceivably be the other. For the only reason which he gives for the identification, *viz.*, that causal continuity makes the matter perfectly evident, does not make the identity evident at all. Probably the explanation lies partly in his analysis of what are called bodies, which he considers really to consist of strings of events; and partly in his distinction between so-called "private perceptual spaces" and so-called "physical space," since these phrases have a certain speciousness so long as their meaning is nc considered. But it can only be to back up one mistake by another to support the identity of what Mr. Russell calls 'percepts' and physical processes by appeal to the distinction between physical space and private perceptual spaces. This distinction may nowadays be popular, especially with psychologists and with those who do not mind using words in Pickwickian senses and do not consider closely the meaning of what they are saying. But those who appeal to the distinction do not appear to ask themselves whether there is any thought corresponding to the use of such phrases as "a plurality of spaces," "a visual space," "my private visual space". Otherwise they would be inevitably led to recognise (1) that it is only possible to think that there is one space, (2) that by "spaces" can only be meant parts of the one space, (3) that if patches of colour are what we see, they are in the one space which is the space in which bodies are, if there are bodies, and (4) that "my private visual space," which must in the end mean a space dependent on my seeing it, is a mere contradiction in terms.

The conclusion to which Mr. Russell finds himself driven by his own view is not surprising. After saying (1) that everything which we can directly observe of the physical world happens inside our heads and consists of "mental" events in at least one sense of the word mental, and (2) that it also consists of events which form part of the physical world, he continues thus:—

> "The development of this point of view will lead us to the conclusion that the distinction between mind and matter is illusory. The stuff of the world may be called physical or mental or both or neither, as we please; in fact, the words serve no purpose. There is only one definition of the words that is unobjectionable: 'physical' is what is dealt with by physics, and 'mental' is what is dealt with by psychology."[1]

[1] P. 148. It seems useless to define "physical" as what is dealt with by physics, and mental as what is dealt with by psychology. For

In other words, Mr. Russell, forced to the conclusion that a purely mental process and a physical process in our brain are one and the same thing, naturally draws the further conclusion that a process which is both cannot really be either, and that, therefore, what we call the world consists of processes which possess no definite character whatever; or are at least not known to have any definite character. He thus appears to arrive by a quite different route at a scepticism similar to that which really underlies Bradley's "Appearance and Reality".

Mr. Russell's account of matter and motion follows lines which he and others have already made familiar.

> "So long as we continue to think in terms of bodies moving, and try to adjust this way of thinking to the new ideas by successive corrections, we shall only get more and more confused. The only way to get clear is to make a fresh start, with *events* instead of bodies. "In physics 'an event' [*e.g.*, an explosion or the starting of a light wave from an atom] is anything which, according to the old notions, would be said to have both a date and a place." [1]
>
> "An 'event,' as I understand it, is something having a small finite duration and a small finite extension in space." [2]
>
> "Some strings of events make up what we regard as the history of one body; some make up the course of one light-wave; and so on. The unity of a body is a unity of history—it is like the unity of a tune, which takes time to play, and does not exist whole in any one moment." [1]
>
> "Now it will be observed that I have been speaking freely of bodies and motion, although I said that bodies were merely certain strings of events. That being so, it is of course necessary to say what strings of events constitute bodies, since not all continuous strings of events do so, nor even all geodesics. Until we have defined the sort of thing that makes a body, we cannot legitimately speak of motion, since this involves the presence of one body on different occasions. . . ."
>
> "To say that an atom persists is like saying that a tune persists. If a tune takes five minutes to play, we do not conceive of it as a single thing which exists throughout that time, but as a series of notes, so related as to form a unity. In the case of the tune, the unity is æsthetic; in the case of the atom, it is causal. But when I say 'causal' I do not mean exactly what the word naturally conveys. There must be no idea of compulsion or 'force' [*i.e.*, really no idea

"physics" and "psychology" are names of studies, and there can be no means of distinguishing one study from another except by reference to the differences of the nature of the things studied. Unless we know the nature of the different things studied, the words which stand for the studies of them can have no meaning whatever. How could anyone be brought to understand what "grammar" stands for, unless he was already familiar with language? And how could he be brought to understand what "language" stands for by being told that it is what is dealt with by grammar?

[1] P. 116. [2] P. 287.

of *causing*], neither the force of contact which we imagine we see between billiard balls nor the action at a distance which was formerly supposed to constitute gravitation. There is merely an observed law of succession from next to next." [1]

Unfortunately, though Mr. Russell devotes a chapter to causal laws in physics, he offers no explanation of what he means by "a law". But as he considers the notion of "necessity" "purely anthropomorphic, and not based on any discoverable feature of the world," [2] what he refers to as a law of succession (and afterwards also as a law of correlation), which he considers to constitute the "causal" unity of a certain string of events ABCD which is what we call a body, can only really consist in the observed fact that similar events $A_1B_1C_1D_1$, $A_2B_2C_2D_2$ . . . have occurred in the same order as ABCD. It is, of course, difficult to see how this fact can give any unity, just as it would be difficult to see how a random series of musical notes could acquire a unity owing to the fact that it had been preceded by a number of similar random series; and hence it is not surprising that Mr. Russell, who denies that we have any knowledge of necessity, finds that induction "raises perhaps the most difficult problem in the whole theory of knowledge." [3] But, however this may be, Mr. Russell develops his account of the unity of a body thus:—

> "As we suggested before, it is these correlations of events that lead to the definition of permanent 'things'. There is no essential difference, as regards substantiality, between an electron and a light-ray. Each is really a string of events or of sets of events. In the case of the light-ray, we have no temptation to think otherwise. But in the case of the electron, we think of it as a single persistent entity. There *may* be such an entity, but we can have no evidence that there is. What we can discover is (*a*) a group of events spreading outwards from a centre—say, for definiteness, the events constituting a wave of light—and attributed, hypothetically, to a 'cause' in that centre; (*b*) more or less similar groups of events at other times, connected with the first group according to the laws of physics, and therefore attributed to the same hypothetical cause at other times. But all that we ought to assume is series of groups of events, connected by discoverable laws. These series we may *define* as "matter". Whether there is matter in any other sense, no one can tell." [4]

At the risk of seeming both ultra-dogmatic and also incapable of understanding even the meaning of the statements in which the new higher truth has to be expressed, I should like to ask Mr. Russell and those who think with him whether there is really a word of truth in this view from beginning to end.

[1] P. 118. [2] P. 121. [3] P. 14. [4] Pp. 123-124.

In ordinary language "an event" is used both for a process of change, which, as such, has a duration, however small, *e.g.*, the movement of a train into a station, and for the beginning or ending of a process which forms a limit of the process, and has no duration, *e.g.*, the train's coming to a stop in the station. And as Mr. Russell says that he means by "an event" something having a small finite duration, it is best, in order to avoid ambiguity, to refer to what Mr. Russell calls an event as a process.

Now in spite of what Mr. Russell says, no one really thinks that there can be a process without a thing or a substance, whether a mind or a body, which undergoes the process. Again no one really thinks that there can be such a thing as a movement, *i.e.*, a change of place, except as the movement of a body, any more than any one really thinks of a movement, as distinct from a change of distance from another body, as relative. It may no doubt be convenient as a loose way of talking to speak of the movement, and indeed of the velocity, of a wave of light, *provided* we presuppose the existence of particles which are waving, *i.e.*, undulating or oscillating; but not otherwise. And when we reflect, we recognise that talking thus is only loose talking, and *given the proviso*, we have no difficulty in substituting the accurate statement of the fact of which we are thinking. But it cannot be legitimate for Mr. Russell, who says that the difference in meaning between 'æther' and empty space is only verbal, and who thinks, or at least says that he thinks, that there are no such things as bodies in the ordinary sense of the term, to speak as he constantly does of a group of events, or a wave of light as spreading, *i.e.*, really *moving*, out from a centre. No doubt he expressly attempts to deal with the objection that "we cannot conceive of movement apart from some *thing* as moving." He says:

> "This is, in a sense, a truism; but in the sense in which it is usually meant, it is a falsehood. We speak of the 'movement' of a drama or piece of music, although we do not conceive either as a 'thing' which exists complete at every moment of the performance."[1]

But this is mere resort to metaphor, and even Mr. Russell shows himself unable to refer to the "movement" of a drama without the use of inverted commas. No doubt also he expressly maintains[2] that it is simply confusing ourselves to speak of motion in the ordinary sense, and that we can only legitimately speak of motion, *i.e.*, use "motion" in a sense in

[1] P. 125. [2] Pp. 116, 118.

which it stands for a fact, when we have adopted his view that what is called a body is really a string of events. But surely the proper way to express this view is to deny that there is such a thing as motion at all and to maintain that what we take for a movement is really something else for which, in order to avoid confusion, we should use some other phrase. Yet Mr. Russell, in spite of his view, continues to use the term "motion" in stating what he considers to be facts. Thus he says, "To imagine the laws of motion of heavenly bodies, think of *motions* of objects in a mirror; they may *move* very fast, although in the mirror world there are no forces".[1] Here the reader wants to know what Mr. Russell means by "a mirror world" and by "objects in a mirror," and also what he means by saying that objects in a mirror move very fast. Mr. Russell would have in the end to say that in this instance, as in all others, nothing really moves and that what is here called a movement is really something quite different. Moreover in making statements about the nature of the physical world he continues to use the terms of ordinary language, such as "forces," "bodies," "motions," "causing" (as when he speaks of perception as "a *reaction* to a feature of the environment,") and he defends the practice on the ground that it is a convenient shorthand. It is true that accuracy is not one of the three respects in which he considers the philosopher desires to improve on our common beliefs.[2] But the omission is probably accidental; and, accuracy apart, it is impossible to see how statements can be convenient ways of expressing facts if, in order to allow them to be true, we have to understand them in senses totally different from those which they normally bear. The fact is that Mr. Russell resembles Berkeley in that while he really holds that there is no such thing as a body, no such thing as a movement, and in fact no such thing as a physical world, he nevertheless considers that he is still entitled to use ordinary language in describing the nature of all that is left as a substitute, *viz.*, what Berkeley calls perceptions and what Mr. Russell calls percepts. And it is not surprising to find Mr. Russell in the end confessing that his doctrine is really that of Berkeley.

> "We shall therefore be prudent if we regard the non-mental events of physics as mere auxiliary concepts, not assumed to have any reality, but only introduced to simplify the laws of percepts. Thus matter will be a construction built out of percepts, and our metaphysics will be essentially that of Berkeley."[3]

[1] P. 123. [2] P. 3. [3] P. 301.

It is true that he quickly goes on to add that he does not believe his own doctrine, but the addition is in no way a retractation of it.

> "In spite" he says "of the logical merits of this view, I cannot bring myself to accept it, though I am not sure [1] that my reasons for disliking it are any better than Dr. Johnson's. I find myself constitutionally incapable of believing that the sun would not exist on a day when he was everywhere hidden by clouds, or that the meat in a pie springs into existence at the moment when the pie is opened. I know the logical answer to such objections, and *quâ logician* I think the answer a good one. The logical argument, however, does not even tend to show that there are *not* non-mental events; it only tends to show that we have no right to feel sure of their existence. For my part, I find myself in fact believing in them in spite of all that can be said to persuade me that I ought to feel doubtful." [2]

In the respect of this claim to retain the use of ordinary language, Mr. Russell's predecessor, Hume, appears to have the advantage of him. It is true that Hume in developing his own view continues to speak, with the man in the street, of objects and of processes in nature, although his aim is to convince us that what we know is limited to impressions and ideas. But Hume always thinks that, if his view is right, the use of this language is wholly indefensible and it is absurd even to speak of physical science simply because there is nothing for it to deal with.

[1] It is not obvious why Mr. Russell is not certain that his reasons are no better than Dr. Johnson's.

[2] Pp. 301-302.

II.—SPINOZA'S CONCEPTION OF ETERNITY.

By H. F. Hallett.

There is no doctrine more fundamentally determinative in Spinozism than that of eternity and of its relations with duration and time. We may, indeed, justly assert that the conception of eternity is the very essence of the theory of Spinoza. It follows, therefore, that the present essay cannot but be inadequate and selective: it must leave most essential matters for future discussion and amplification; many, again, and some of prime importance, must be totally ignored, if the proper limits of space are to be observed. It will be well if we can succeed in casting doubt upon some popular misinterpretations of the conception; and if, over and above this, a more adequate account can be suggested in outline, and feebly supported, our work will not have been in vain. Demonstration must await a more ample occasion.

Few philosophers have realised (though many have suspected, and some have acted upon the suspicion) how essential it is for a thinker on ultimate subjects to face up to the problem of time before proceeding to lesser matters. For this is the chart and compass and rudder without which it is fatuous to venture out of the port of facts on to the high seas of speculation. Early in his career Spinoza made up his mind on these matters, and we find the main lines of his doctrine of time and eternity already laid down in those *Cogitata Metaphysica* which he appended to the geometrical version of Descartes's *Principia Philosophiae* which he published in 1663. His views suffered no reversal or essential change right down to his untimely death in 1677: not that his thoughts turned away from such subjects; on few things, perhaps, did he meditate more often, for few things are more often brought to the notice of the serious philosopher, whatever may be the special direction of his inquiries, and none are more worthy of the consideration of a great philosopher.

It is because it has not always been remembered that the order of discovery often reverses the logical order of nature, that Spinoza's doctrine has been commonly misinterpreted as purely negative. In the order of nature eternity is prior to

duration, and duration prior to time; in the order of discovery time and duration are prior to eternity. And the position is not rendered any the more safe for the unwary by Spinoza's attempt to identify the order of nature and the order of exposition by the use of the synthetic or geometrical mode in his chief metaphysical work, the *Ethica*. This is, indeed, precisely the sort of 'snag' which constitutes the 'spinosity' of Spinoza.

I. Duration and Time.

We begin with what is more familiar to us, *viz. duration*. This term is used by Spinoza much in the same way as we (distinguishing ourselves from the mathematical physicists) use the term 'time'. It means persistence, or as Spinoza expresses it: *existentia, quatenus abstracte concipitur, et tanquam quaedam quantitatis species* (Eth. II. 45 Sch.), or *indefinita existendi continuatio* (Eth. II. Def. 5). It is from this quantitative character of duration that arises the notion of measuring it, which gives us *time* in the Spinozistic sense; for, observing that some things persist longer than others, and that certain motions (such as the apparent motion of the sun round the earth, or that of the moon, or the swing-swang of the pendulum) are regularly recurrent, we find it convenient to take the durations thus marked off as standards by which to measure the durations of things. Such measurements are only conventionally absolute, but really relative, for the standard is itself a quantity, and is, therefore, as measurable as any other quantity. Time is for Spinoza the measurement of duration by such comparisons (Cog. Met. I. 4; Eth. II. 44 Cor. 1); it follows immediately that time is not a real thing, but a mental tool. It cannot belong to the Real because it is a mere measure, and its standard is arbitrary. It is an *ens rationis*, a mode of thinking, or rather of imagining (*i.e.*, misthinking) duration. It is an *auxilium Imaginationis* (Ep. 12). Nor can there be an absolute measure of duration, for absolute measure implies an absolute unit; but such a unit cannot be found in the duration of any existing thing, for that duration is indefinite. The duration of a thing is not proportioned to its absolute nature, but depends upon vicissitude; it may be long or short as the circumstances of its occurrence determine. In the absence of obstruction each thing would endure for ever. In the absence of its producing cause the duration of a thing cannot even begin. Here, therefore, no absolute unit can be found. Nor can it be found in the nature of duration itself, for duration is neither discrete nor is it a whole. It provides for itself no absolute units either in the

form of *minima* or in that of a *maximum*. Every duration, however small, is a duration, and therefore divisible. Every duration, however large, is partial, and therefore multipliable. But in the absence of an absolute unit of measurement, time as a single absolute measure of duration cannot belong to the Real.

But what of duration itself, the *indefinita existendi continuatio*, can this not be predicated of the Real?

Two distinguishable, but not altogether separable arguments may be extracted from Spinoza's discussions of this important point.

(1) In the first place, duration is existence *quatenus abstracte concipitur, et tanquam quaedam quantitatis species*, and this quantity is conceived as divisible. But the Real cannot be divided, for it must be self-complete and without limit. An incomplete reality is incompletely real. *Nullum substantiae attributum potest vere concipi, ex quo sequatur, substantiam posse dividi* (Eth. I. 12). For if it were divided the sections would either be the same as the whole (and therefore not sections at all), or different from the whole (and therefore incapable of being produced from it merely by division), or again, nothing real at all (which is absurd, since the Real cannot be wholly composed of unreal sections).

Now it might be objected that whatever may be the value of these arguments they apply not only to duration but also to extension, and yet Spinoza retains extension as an attribute of the Real, but rejects duration. Mr Alexander has, indeed, objected to this procedure and has suggested a renovation of the Spinozistic theory in which duration would be retained as one of the infinite attributes of Substance (*Spinoza and Time*, 1921). Spinoza himself, we may be confident, had he been compelled to agree with the arguments in question, would have rejected extension with duration, rather than have accepted duration as an ultimate attribute of Substance co-ordinate with extension. But he would not have recognised the dilemma, for he holds that we need not conceive extension as divisible, though in imperfect thinking we more easily do so. *Si autem ad ipsam prout in intellectu est attendimus . . . quod difficillime fit, tum, . . . infinita, unica, et indivisibilis reperietur* (Eth. I. 15 Sch.). And this is the true view of extension: *Quare ii prorsus garriunt, ne dicam insaniunt, qui Substantiam Extensam ex partibus, sive corporibus ab invicem realiter distinctis, conflatum esse putant. Perinde enim est, ac si quis ex sola additione et coacervatione multorum circulorum quadratum, aut triangulum, aut quid aliud, tota essentia diversum, conflare studeat* (Ep. 12). Nor need we

concentrate our attention solely on the intellectual conception of extension in order to realise that it cannot be composed of sections (*i.e.*, of extended sections, for the term "unextended section of extension" involves a contradiction), for even finite magnitudes may be incommensurable (*i.e.*, incapable of commeasurement in terms of a single unit: Spinoza gives the example of the variations in the distance between the circumferences of two eccentric circles one of which lies wholly within the other). A finite, divided, discrete extension is an illusion of the imagination; but in removing the illusion we do not lose extension itself, or even its quantitative character; but we find that the conception of an infinite, single, indivisible extension involves no contradiction, and may be accepted as real.

It has not always been realised, or not sufficiently, that the contention of Spinoza is that this correction is impossible with duration conceived as a quantity, for duration is essentially divided, for it is characterised by the irreversible distinction of past and future, or its equivalent. If the Real endures then its existence is always essentially divided into what has already occurred and what has yet to occur. If that distinction implied no real division it would be a mere distinction of reason and not the real character of duration which we must affirm it to be. Nor does the fact that the line of division moves steadily towards the future render the division less fatal, for every instant is in turn the division of past and future, and to heal the breach at one place is identical with the creation of it at the next or at another. Division and duration appear and disappear together.

Briefly, the reason why extension survives the process of intellectual criticism and is admitted as an attribute of Substance, while duration is excluded, is that temporal relations are essentially asymmetrical in a sense and to a degree in which spatial relations are not. The latter demand no special (or spatial) variety in their terms, while the former can only be sustained in so far as periods differ from one another in date or epoch as well as in distance from one another. They must differ in temporal quality as well as in temporal quantity; only thus can they be in succession. Remove the distinctions of past and future, earlier and later, before and after, and you remove the essential character of any kind of duration, and all that is left is a neutral form of externality like a dimension of space. But duration is like extension in one feature only, *viz.* its quantitativeness or measurability (avoiding the question as to which of these terms is the best expression of the common quality); in its specific quality it is

wholly different: a fact which is too often slurred over in modern speculations, especially of the mathematico-physical type.

(2) These considerations lead naturally to the second and connected set of objections to the predicating of duration of the Real.

The qualitative variety of an enduring being is a successive variety. Whether we think of crude perceived duration with its distinctions of past, present, and future, or of historical time with its distinctions of before and after (and Spinoza, recognizing both, argues mainly against the latter, the former being obviously inapplicable to the Real), there is no getting rid of succession without getting rid of duration. For without change there can be no duration, and without succession no change. But change cannot be predicated of the Real, which can lack nothing and can surrender nothing. In the being of Substance *nihil prius nec posterius dari potest* (Cog. Met. II. 1); *in aeterno non datur* quando, ante, *nec* post (Eth. I. 33 Sch. 2); and future, past, and present are all one to *Ratio, i.e.*, for adequate knowledge (Eth. IV. 62).

Hence the existence of the Real cannot be an enduring existence, not even an existence enduring without beginning or end (Eth. I. Def. 8).

How, then, is the existence of the Real to be construed? It is not a quantity measurable by time. It does not endure: its existence is not divisible into earlier and later stages. But neither is it momentary. That was a strange misconception expressed by M. Bergson in one of his earlier works, that for Spinoza "*la durée indéfinie des choses tenait toute entière dans un moment unique, qui est l'éternité*" (Les Données Immédiates, ch. 3), but comparable with that even commoner opinion that for Spinoza all multiplicity fades into mere identity in Substance, and all content into vacuity; but for Spinoza, we must contend, the Real occupies neither one moment, nor many moments, nor even infinite moments. God does not exist *ab aeterno*, for that would imply a duration than which no longer can be conceived; He does not exist in a moment, for that would imply a duration than which no shorter can be conceived; and both are impossible, *talis enim est natura durationis, ut semper major et minor data possit concipi* (Cog. Met. II. 10).

Must we conclude, then, that what does not exist in one, many, or infinite moments of duration does not exist at all? By no means; there can be no doubt whatsoever that Spinoza himself draws, and could draw, no such conclusion. No one has ever doubted that he at least attempts to establish a

species of existence beyond the limitations of duration and time, though many have asserted or implied that he has failed to do so. Such existence beyond the limitations of duration he calls an eternal existence, and in the space that remains to us we must attempt an explanation and discussion of some of the interpretations which have been put upon this conception, and make some tentative suggestions of our own.

II. Eternity.

§ 1.

There is a short and easy way of interpreting Spinoza's conception of an eternal existence which, though in itself wholly unsatisfactory, and as applied to Spinoza easily refuted, yet must be mentioned, both because it is the common interpretation, and also because it has some apparent basis in expressions used here and there by Spinoza himself. The reading to which we refer is not precisely that which takes eternity as synonymous with necessity, but one which, realising that necessity is at most the logical *proprium* of an eternal existence and not its metaphysical essence, attempts to construe the existence which is eternal as equivalent to, or framed on the analogy of, the being which belongs to necessary truths such as the propositions of Euclid or established scientific generalisations. And *prima facie* there is some evidence for that view in Spinoza's own expressions; the Explanation, for example, which is added to the definition of Eternity at the beginning of the first part of the *Ethica*, seems to bear this significance: *Talis enim existentia ut aeterna veritas, sicut rei essentia, concipitur*, and one has to get well within the mind of Spinoza before it becomes clear how little such words bear the meaning we are prone to attach to them. For eternal truths, as we use the phrase, do not exist at all as such, they hold, or 'subsist,' as the phrase runs nowadays. That is so because they are abstractions; in Hume's useful phrase, they are 'relations of ideas' and not 'matters of fact.' They may be true of existence, they are not themselves existences.

Now Spinoza's point of view is essentially different, and, though remote from both, nearer to that of Plato than to that of Empiricism. For him as for Plato to know truly is to know the real; an eternal truth is in fact the same thing as an eternal reality. It is not an abstract universal, or the connexion of abstract universals. That is the point of the

last part of the sentence we quoted: *aeterna veritas, sicut rei essentia.* He speaks elsewhere of the essence of a man as an eternal truth (Eth. I. 17 Sch.), and the first Corollary to Eth. I. 20 runs: *Hinc sequitur . . . Dei existentiam, sicut ejus essentiam, aeternam esse veritatem.* To a correspondent who asked him point blank whether things and their modifications are eternal truths, he answered: *Omnino. Si regeris, cur eas aeternas veritates non voco? respondeo, ut eas distinguam, uti omnes solent ab iis, quae nullam rem reive affectionem explicant, ut ex. gr.* a nihilo nihil fit (Ep. 10).

An eternal existence, therefore, must not be explained, or explained away, as framed on the analogy of the validity of abstract or universal scientific principles or mathematical truths. For the whole paraphernalia of abstract universals of whatever kind had been definitely relegated to *Imaginatio*, or knowledge of the lowest, most confused, and emptiest kind, resulting rather from impotence than from the power of the mind (*cf.* Eth. II. 40 Sch. 1). *Possumus videre, apprime nobis esse necessarium, ut semper a rebus physicis, sive ab entibus realibus, omnes nostras ideas deducamus, progrediendo, quoad ejus fieri potest, secundum seriem causarum ab uno ente reali ad aliud ens reale, et ita quidem, ut ad abstracta et universalia non transeamus, sive ut ab iis aliquid reale non concludamus, sive ut ea ab aliquo reali non concludantur: utrumque enim verum progressum intellectus interrumpit* (De Intell. Emend., Op. Post., p. 388).

Spinoza's own theory of *Ratio* (the Second Kind of Knowledge) is based upon a new kind of abstraction in which universal principles are embodied in universal particulars, and truths of reason are no longer mere 'relations of ideas,' but also and essentially relations of existences, infinite and eternal. Truth is never a mere relation of ideas thought of as pictures or images in the mind; for an idea is the objective essence of a thing, and to have an idea is to know a thing, while to have a true idea is to apprehend reality. The eternity of scientific truths, therefore, rightly conceived, *i.e.* as truths about universal particulars, and not mere hypotheses, is not definable by negation as timelessness *simpliciter*, but as existence of a certain kind. The assertion that it is the nature of *Ratio* to conceive things *sub quadam specie aeternitatis* must not be interpreted as if its objects were 'ideal contents' or 'floating ideas,' applying at any point of time because independent of time-reference; its objects are particular existences which are also universal because they are coextensive with all being.

§ 2.

Before we proceed to a direct exposition of Spinoza's conception of eternity, it will be well to consider as briefly as possible the notion of eternal existence as equivalent to enduring existence purged from those elements which incapacitate it for survival in the Real. Those features are, as we have seen, divisibility and successiveness. The former imperfection is shared by extension as it is uncritically apprehended by *Imaginatio;* the latter, which implies the former, though *eminenter,* is peculiar to duration. The question now is, therefore, whether eternity must not be that attribute of the Real which remains when the offending successiveness has been removed from duration. Without succession there can be, of course, no duration; but may there not remain a non-durational form of existence which is eternity?

The probable argument would be that the successiveness which infects an enduring existence is relative only to this or that observer or experient, and is his subjective addition, (or rather, subtraction) from the eternal co-existent facts. Existence, it would be argued, purged from these subjective ambiguities is not a successive existence, and does not endure in any objectionable sense of that term; but for analytic thought, as for selective perception, features of the eternal whole may be apprehended successively; and though perception presents them in an irreversible order, analytic thought can order them according to its special requirements. In other words, eternity on this view is the fourth dimension of the mathematical physicists, and is, or ought to be, indistinguishable from any of the dimensions of space. In it there is no present, past, or future. Nor are these simply replaced, as in Absolute Time, by the relations of before and after. In passing from the subjective perspective of duration to an objective 'time' by the removal of the point of reference given by the observer's 'now,' we must pass also from an irreversible time to a neutral order which may be read according to the special needs of the thinker. Subjective duration moves from past to future, or, adopting the point of view of the experient, future moves to past; but it does so because past means that which *has been given,* future that which *will be given,* and present that which *is being given.* It is natural and inoffensive to begin with what we already have and are having, and pass on to what we shall have. But in this purified objective 'time,' considered strictly as such, no such distinctions are forthcoming,

and they only appear to be so because we transfer to objective 'time' distinctions which are only valid for subjective time. We imagine ourselves at a point of objective 'time,' and say that what is before that is past, and what is after it is future, and that the flow of time is from the past to the future, *i.e.* from before to after. But if subjective time is unreal we have no right to transfer its direction of flow to an objective 'time' for which past, present, and future have no significance, since in it *all is given*. Objective 'time,' therefore, can have no direction of flow, and the sense of duration which lurks about the terms 'before' and 'after' must be carefully excluded if we are to continue to use them in relation to this purified neutral order.

Objective 'time' must therefore be distinguished from that hybrid form which commonly occupies attention in this connexion, and which is an objective order into which, by the use of memory and imagination, we place the objects of our immediate experience, thus determining its direction of flow, and then proceed to fill out the earlier periods with objects lying beyond our immediate experience but connected therewith in various ways. This is Historical Time, which is transformed into Absolute Time by leaving out the point of reference given by the 'now' or 'present epoch,' but carefully (but illegitimately) retaining the direction of flow. In true objective 'time' the distinction of realised and unrealised disappears, and with it duration itself, and we are left with a neutral order of externality.

No such neutral order is an adequate representation of eternity as it is conceived by Spinoza. For though it is an order of existences, it is not that order which characterises the Real. It suggests that the order of things in time is, with minor corrections for the spatio-temporal perspective of the experient, the real order of existences. But according to Spinoza we know that it is not so. The real order is the logical order, which is not a mere corrected temporal order, but proceeds on a different plan. There is no point to point correspondence between events in time and the stages of logical order. No distinction is more clear in Spinoza than that between the *communis naturae ordo* (Eth. II. 29 Cor. *et* Sch.; 30 Dem.) and the *ordo intellectus* (Eth. II. 18 Sch.) or *ordo ad intellectum* (Eth. II. 40 Sch. 2; V. 10) through which the actual time order of our experiences is distinguished from the logical order of essences. It is precisely the order in which things are conceived which determines their reality or unreality; for all things are real and eternal in so far as they survive the process of being arranged in the intellectual

order, as all things are illusory and corruptible as objects of mere perception.

Furthermore, and in the second place, the logical order is not neutral; it moves from essence to expression, from ground to consequent, from Substance to mode. For *Intellectus* the process in time from cause to effect gives place to the procession of grounds and consequents in eternity, and in the same transvaluation *Imaginatio*, the First Kind of Knowledge, gives place to adequate knowledge of the Second or Third Kinds. The change from time-order to the intellectual order, therefore, is not a change to neutrality, but a change from an order of exclusion to an order of inclusion or implication.

§ 3.

What, then, is the account which Spinoza himself gives of eternity? The distinction between eternity and duration arises from the fact that we conceive the existence of Substance as entirely different from the existence of modes (Ep. 12). Eternity is an *attributum, sub quo infinitam Dei existentiam concipimus, Duratio* vero *est attributum, sub quo rerum creatarum existentiam, prout in sua actualitate perseverant, concipimus* (Cog. Met. I. 4). *Per durationem modorum tantum existentiam explicare possumus, Substantiae vero per aeternitatem, hoc est, infinitam existendi, sive, invita latinitate, essendi fruitionem* (Ep. 12). Further as the duration of a thing is its whole existence (*quantum enim durationi alicujus rei detrahis, tantundem ejus existentiae detrahi necesse est* (Cog. Met. I. 4)) so eternity is that *infinita existentia* which coincides with the real essence of God (*Deo actu competit*) *quae soli Deo tribuenda, non vero ulli rei creatae; non, inquam, quamvis earum duratio utroque careat fine* (Cog. Met. II. 1). For this existence is not something which is added to God, even by right; it is not something that God enjoys or possesses, it *is* the Divine Being. *Deus vero non potest dici frui existentia, nam existentia Dei est Deus ipse* (*loc. cit.*). Duration is, indeed, the enjoyment of existence, but eternity is existence itself.

It is this infinite realisation of existence, and not an indefinite emptying of existence, that must give us our clue to Spinoza's conception of eternity. What duration is to a conditioned existence that, or not less than that, is eternity to the necessary existence of God; it is its essence. *Ut nullam Deo durationem tribuamus, dicimus eum esse aeternum*, he says, hastily correcting his not unconsidered assertion that we use the term eternity to explain the duration of God (Cog.

Met. II. 1). We need not consider here the reputed double use of the term duration by Spinoza; it would be easy to show that the ambiguity belonged not to the mind of Spinoza but to duration itself; it was essential for him both to distinguish and to relate the two conceptions: to distinguish them, since he was very much concerned to distinguish an eternal existence from an existence *ab aeterno;* to relate them, since not only are both for him forms of existence, but they are both forms of the same aspect of existence, for duration is clearly related to eternity in a way in which Number (*e.g.*) is not. These are facts which have too often been overlooked, especially by those who have been wont to think of the eternity of Spinoza as the mere negation of duration, or as equivalent to timelessness.

Eternity is a kind of existence, it is existence *par excellence*, an infinite existence; or, as the formal definition runs: *per aeternitatem intelligo ipsam existentiam, quatenus ex sola rei aeternae definitione necessario sequi concipitur* (Eth. I. Def. 8); that is to say, where essence and existence are no longer distinguishable. One of Spinoza's great sayings, characterised by his peculiar intensity of meaning and restraint of expression, is that in which he lays bare the source of the errors of metaphysical writers on this subject, as due to the fact that they attempt to explain eternity in abstraction from the nature of God or perfect being, *quasi aeternitas absque essentiae divinae contemplatione intelligi posset, vel quid esset praeter divinam essentiam* (Cog. Met. II. 1).

It remains next for us to inquire into the peculiar nature of this existence which is not to be conceived as a mere persistence. Have we any experience of such a form of existence? In the absence of such experience we might well accept as abstract conclusions the unreality of duration, and the necessity of a certain intellectual order, but we should have no real apprehension of the nature of eternity.

According to Spinoza we are not left without such experience: *sentimus experimurque nos aeternos esse* (Eth. V. 23 Sch.), for we as men have commerce with and enter into reality; and we do so most truly as entering into the universal being in and through those intellectual perceptions by which our groundedness in the Real is revealed, and our true being enjoyed. *Nam mens non minus res illas sentit, quas intelligendo concipit, quam quas in memoria habet. Mentis enim oculi, quibus res videt observatque, sunt ipsae demonstrationes* (Eth. V. 23 Sch.) Further, as we saw before, Spinoza does not regard our demonstrative knowledge as merely hypothetical and concerned with abstract universal features of

existence, for the objects of *Ratio* are universal particulars: the common properties or universal bases of all finite things; *haec fixa et aeterna, quamvis sint singularia, tamen ob eorum ubique praesentiam ac latissimam potentiam, erunt nobis tanquam universalia, sive genera definitionum rerum singularium mutabilium, et causae proximae omnium rerum* (De Intell. Emend., Op. Post., p. 389). *Ratio* no less than *Scientia Intuitiva* brings us into contact with the Real, and its peculiar failing is not that it is merely hypothetical, but that it is selective and analytic in procedure. Its main concern is not the individual nature of these *fixa et aeterna* as universal particulars, but their necessary connexions and the relations of their constituents. Undoubtedly these connexions and relations are also constituents, but they are conceived by *Ratio* for themselves and not as constituting this or that individual. But in spite of these special limitations it is none the less *de natura Rationis res sub quadam aeternitatis specie percipere* (Eth. II. 44 Cor. 2); and the expression has a peculiar appropriateness as applied to the mode of apprehension that belongs to *Ratio*. In view of the history of the phrase, and also the fact that Spinoza applies it to *Scientia Intuitiva* as well as to *Ratio*, it is improbable that this secondary propriety in any way influenced him in adopting, and so often repeating, this celebrated expression; doubtless he uses it as signifying simply '*qua* eternal,' but that *Ratio* is capable of providing a satisfactory idea of the nature of eternity is not suggested by Spinoza. *Ratio* views things 'under the form of eternity,' but it assumes rather than explicates the special nature of an eternal existence. The special concern which Spinoza shows in the proof of this Corollary to exclude all time relations (*absque ulla temporis relatione*), and to emphasise the logical properties of an eternal existence, *viz.* its necessity, has misled many into supposing that he intends here to convey the metaphysical essence of eternity. We may be confident that he has no such intention, for it is necessary to pass beyond *Ratio* to *Scientia Intuitiva* to obtain that further knowledge; the necessary connections and relations of things must be woven into concrete knowledge of individuals as such, and not as mere assembled implicates. In order to experience eternal existence we must be able to take a single view of an individual experience as it were from inside; for thus only to know things *sub quadam specie aeternitatis* is also to feel and prove *nos aeternos esse*. There need be, for us there can be, no real separation of the two forms of knowledge; *Ratio* blossoms into *Scientia Intuitiva*, which reassures itself by means of

Ratio; thus our finitude genuinely reveals itself. The *Ethica* itself is an example of such relations: in the main it is a system of *Ratio*, but again and again it uses conceptions which imply the use of *Scientia Intuitiva*. Of no part is this more true than of the second section of Part V. We might go so far as to assert that it is precisely those propositions which most truly exemplify the processes of *Ratio* that provide the text for the view of Spinozism as reducing relation to identity and existence to a moment; as it is the more concrete teaching of Part V. that must become the essential ground for a true view of eternity.

§ 4.

We have said that it is to *Scientia Intuitiva* that we must look for our main clue to the Spinozistic conception of eternity, but it is not necessary, indeed it would be pernicious, to separate the second section of Part V. of the *Ethica* from the rest of the work. Spinoza means to tell a single story; and in order to show that in the main he succeeds in doing so we may consider next the theory of the *Affectus* which is found in Part III. and which has an important bearing on our main problem.

Spinoza draws a clear distinction between the *laetitia*, *tristitia*, and *cupiditas* of the finite mode, on the one hand, and the eternal *beatitudo* of God and the free man. Conscious of its finitude, each fluctuating mode suffers continual change, which it as continually resists; this change and the striving against change are experienced as *laetitia*, *tristitia* and *cupiditas*. In these *affectus* we are directly aware of processes, which are not to be taken as alternating unconnected states, but rather as felt qualities in which succession has been transcended but not lost, and in which transformation has become a felt, and therefore direct, datum. For Spinoza is emphatic in his insistence upon the identity of the *affectus* with the process and not with the *termini* of the process: *Dico transitionem. Nam Laetitia non est ipsa perfectio. Si enim homo cum perfectione, ad quam transit, nasceretur, ejusdem absque Laetitiae affectu compos esset; . . . Nec dicere possumus, quod Tristitia in privatione majoris perfectionis consistat; nam privatio nihil est, Tristitia autem affectus actus est, qui propterea nullus alius esse potest, quam actus transeundi ad minorem perfectionem* (Eth. III. Aff. Def. III. Explic.). In other words, the finite mind does not merely apprehend its objects and its ideas in their logical or perceptual distinction and order, it directly apprehends their changes towards or

away from perfection, and it apprehends its own existence as a ceaseless urge or struggle against an obstructive environment.

As opposed to these direct experiences of transition and of duration which belong to the finite mode, Spinoza contrasts the eternal blessedness of God: *si Laetitia in transitione ad majorem perfectionem consistit, Beatitudo sane in eo consistere debet, quod mens ipsa perfectione sit praedita* (Eth. V. 33 Sch.). No assertion in the *Ethica* is more decisive for our argument, for *laetitia* belongs to an enduring existence, but *beatitudo* to one which is eternal. As opposed to duration which implies change towards or from perfection, an eternal being, incapable of change, enjoys fullness and perfection of existence, enjoys blessedness, not as though it were something different from its existence and essence, but as the very content of its reality.

It has sometimes been asserted that, in view of Spinoza's own statements about the nature of the fundamental *affectus*, the conception of *beatitudo*, though in itself one of the most attractive features of the system, is really only a beautiful excrescence. For the *affectus*, as transitions to or from perfection, are essentially durational in character; an eternal being, on the contrary, being incapable of such transitions, must lack all affective experience. We may meet that contention by tracing the development of the notion of *beatitudo*. The transition to this conception from that of *laetitia* is through the conception of *mentis acquiescentia in se ipso*, which is defined as *laetitia orta ex eo, quod homo se ipsum suamque agendi potentiam contemplatur* (Eth. III. Aff. Def. XXV.), that is to say it is not mere abstract *laetitia* but a grounded joy, a joy arising from the perception of a perfection already possessed. Now the perfection or reality of a thing, according to Spinoza, is identical with its activity, it is the possession within its own individual nature of adequate genetic causes for its particular content. The essence of a thing in so far as it is real is this activity or grounded content. *Mens nostra quaedam agit . . . quatenus adaequatas habet ideas eatenus quaedam necessario agit* (Eth. III. 1). The actual essence of a finite thing is this real essence modified in proportion to its finitude by the passivity involved in inadequate ideas. The result of this qualification or finitude is to limit existence to the form of duration, so that the *potentia* of the thing appears as its *conatus in suo esse perseverare*, and as *cupiditas*, the third fundamental *affectus*. It follows that *cupiditas* does not belong to God for whom actual and real essence are identical, and who therefore cannot be conceived as enduring. These statements involve important principles which we have no space to elaborate; for the present we

must be content to sum them up dogmatically by saying that genuine activity, as it is found in God and the eternal part of the free man, is not identical with *cupiditas*, and does not imply transient causality; it is one with the logical *nisus* of adequate or grounded ideas.

It follows, further, from the well-known doctrine of *idea ideae* that we are capable of a reflective joy in contemplating our concrete achievements, over and above the direct joy of this or that achieving. For the mind could not unknowingly possess this *nisus* to wholeness which belongs to adequate ideas, for its being is its knowledge: *nostrae Mentis essentia in sola cognitione consistit* (Eth. V. 36 Sch.). Thus though it is not true to say that reflective knowledge *constitutes* individuality, it is certainly the source of our enjoyment of our individuality or perfection *sub specie acquiescentiae*. The mind, therefore, not only experiences its temporal transitions as *affectus*, it also knows itself, and so far as it is active or real knows itself adequately, and in this self-knowledge may be supposed to pass to a greater perfection as reflective knowledge becomes more effective and profound. For the reflective knowledge of the mind must more and more approximate to *Scientia Intuitiva* for which the temporal transitions of *Imaginatio* are superseded by logical transitions which for *Scientia Intuitiva* are rightly apprehended as the eternal *nisus* of ground and consequents. Such concrete intuition is, according to Spinoza, accompanied by delight proportioned to the degree of perfection already achieved, so that *acquiescentia* is not, like *laetitia*, an unreal abstraction or *passio*, but an *actio*, and the proper affective enjoyment of adequate knowledge. It would be strange indeed if the mind could feel its transition to a greater perfection and yet be wholly unaware of the perfection itself to which it has passed; for thus perfection would be wholly relative, instead of being the very standard of the absolute: *per realitatem et perfectionem idem intelligo* (Eth. II. Def. 6). Nor can grounds and consequents be rightly separated as successive or as co-existent in an intellectual space or neutral 'time': their distinctness is not spatio-temporal, and their co-existence, though not spatial, does not lapse into identity or confused altogetherness. It becomes quality, and when Spinoza speaks of the possession of unchanging perfection as being without *laetitia*, we must not understand him as denying that it involves *acquiescentia*; rather we should assert that joy itself would be impossible without some awareness of its *termini*, since though change is not the same thing as difference *simpliciter*, still less is it pure process. Awareness of change without awareness of

achievement or loss is in strictness inconceivable, though the actual estimation of the result may be vague and inadequate.

Now *beatitudo* is identical with that *summa quae dari potest Mentis acquiescentia* (Eth. V. 32), which arises from the Third Kind of Knowledge. It is the affective apprehension, not of transition to or from perfection, but of perfection itself, not of achieving but of achievement. But, it may be objected, the real fallacy in Spinoza's doctrine is not its assertion that *laetitia*, or the affective perception of transition, implies *acquiescentia*, or the affective perception of the *termini* of transition, and that hence an eternal being is not deprived of affective or qualitative content; but the converse assertion that there can be awareness of achievement without awareness of achieving: that a perfect and complete being can, without change or struggle, enjoy not merely the fruits, but also the sense, of victory. That is an objection that seems to run nearer to the heart of the thesis, and we have to admit that Spinoza's own statement about the genesis of *acquiescentia in se ipso* is not altogether unambiguous. *Cum fit, ut Mens se ipsam possit contemplari eo ipso ad majorem perfectionem transire, hoc est Laetitia affici supponitur* (Eth. III. 53), which implies that *acquiescentia* is after all only a transition, and therefore a particular example of *laetitia*. But the use of the term *supponitur* is significant; for there can be no genuine transition in such a case, for the *idea* and the *ideae idea* are one and the same: *Mentis idea et ipsa Mens una eademque est res* (Eth. II. 21 Sch.). True, there may seem to be, with the finite mind, a transition to a greater degree of reflective clearness, arising from our ideas becoming more adequate; but this is necessarily absent from the free mind in proportion to its freedom; and in any case it is not a transition from knowledge of an object to reflection upon knowledge itself: *simulac enim quis aliquid scit eo ipso scit se id scire, et simul scit se scire quod scit, et sic in infinitum* (*loc. cit.*). *Acquiescentia*, therefore, is not a transition in the same sense as *laetitia*, it is not a temporal transition, but a 'supposed' transition, and we must explain this as meaning that the transition is logical rather than temporal. And it is because the transitional nature of *laetitia* does not infect its qualitative content, that perfection itself, which is no transition, may be enjoyed as quality in *acquiescentia*. In *laetitia* the moments of temporal transition are summed up as enduring quality; in finite *acquiescentia* the moments of logical 'transition' are concretely enjoyed *sub specie temporis;* and in *beatitudo* the eternal *nisus* of grounds and consequents is apprehended and enjoyed as that intellectual love which alone among the *affectus* is eternal.

The same distinctions are pertinent in our interpretation of the unchanging character of the Real. The lack of transition in God is not meant by Spinoza as an imperfection in Him, but, on the contrary, as an alternative expression of His perfection, *i.e.* of the absolute completeness of His nature. Transition is denied because it implies imperfection either in its *terminus a quo* or in its *terminus ad quem*, indeed, ultimately in both; but logical 'transition' or *nisus* involves no such imperfection, but is the very ground of all perfection, and the essence of the Real.

It is the distinction between unreal or temporal transition and real 'transition' or logical *nisus* (which analytically appears as *feigned* transition) that makes clear the essential nature of *acquiescentia* and *beatitudo* and their relation to *laetitia*. Temporal transition is unreal because it is a contradiction in terms; duration itself is only possible as achieving grows out of achievement, and achievement out of achieving; and in eternity achievement and achieving are reciprocal, and their reciprocity is love: *quamvis hic Amor principium non habuerit, habet tamen omnes Amoris perfectiones, perinde ac si ortus fuisset sicut* FINXIMUS (Eth. V. 33, Sch.).

Similar considerations will be found to govern Spinoza's conception of the relations of change, causation, and perfection. No theory which accepted the externality of causation could escape the objections with which we have been dealing, for achievement would be external to the process of struggle, and could only be recognised as achievement through our memory of the process which led up to it. But Spinoza's view is that all causation is immanent or genetic in its real nature, though, to the partiality of finite being, it may appear as transient, and therefore as temporal. That is an inescapable fiction in the experience of the finite self; but it need not be an error. Even the finite mind can recognise the ultimate nature of reality, and of causation, not because it is finite but because it is mind. Causation cannot be transient if there is to be real process and achievement, for the memory of a process together with the perception of its *terminus ad quem* could only make that end a real *terminus*, an achievement, in so far as the whole process can be reviewed as a connected whole, and not merely as a series of externally related events. The perfection of the whole, therefore, must already contain all the stages of its achieving, not *sub specie temporis* as stages external to one another and to their end, and leading up to perfection, but *sub specie aeternitatis* and after the manner in which premisses are contained in their explained conclusion.

Spinoza's theory of *laetitia*, then, must be taken as his recognition that the finite mind perceives duration, not as

separated *puncta*, but as quality. Pure externality belongs only to time and measure, and these are unreal. His theory of *acquiescentia*, again, must be taken as signifying that it is insufficient to establish the continuity of duration, since it cannot be adequately perceived as pure process without *termini*. It is always possession, achieving, and achievement, inextricably woven together. Duration is only duration by the pressing in of the past upon the present and the emergence of the future therefrom. It is not a succession of nows, it is process; but it is not pure process, for successive positions in a real duration are different in quality; and the essence of existence, even of enduring existence, is that very qualitative growth through which we escape the 'absolute relativity' of mere time (and the self-contradictory phrase exactly describes the logical vice of time).

§ 5.

M. Bergson has well argued that real duration is not a kind of space, but is an intensive quantity, *i.e.* a quality; the past concentrates itself at the growing point of the present, which it permeates. And it is this permeation of achievement or creation by possession that constitutes the reality of duration, which is thus an enjoyed quality rather than a measurable quantity. This conception of duration was put forward consciously as a refutation of what M. Bergson conceived to be Spinozism, *viz.* the theory that causation is identity, and duration nothing. If the view which we have put forward is correct, the Bergsonian theory of duration is but a partial and inadequate Spinozism: for it is not, strictly speaking, the past as past that permeates the present, but only the past as the given, and therefore as our main source of creative essence. The permeation of the present by the past as such could not make intelligible the reality of duration. It becomes a miracle! What really operates is not past, which as operating in the present is not past at all, but present; what operates is what is equally efficient in past, present, and future, and permeates them all, *viz.* eternal essence. With a stern eye directed towards M. Bergson, Mr Alexander protests: "In what sense it can be held that time as we experience it in ourselves is other than a duration which is intrinsically successive passes my understanding" (*Space, Time, and Deity*, I. p. 124). But the implication is not that temporal process is merely successive: or even that it is sufficient to establish its continuity in succession. There can be no succession without change of quality, nor change of quality without permeation of some sort. But the permeation is not that of the present by the past as such, any more than

by the future as such; it is the permeation that we find in the relation of premisses and conclusion, through which the conclusion receives its justification, and the premisses their full content. When we say that the conclusion follows from the premisses we do not mean that the premisses precede the conclusion in time, but that they determine the conclusion. There may be a sense in which, on occasion, *e.g.* in the process of learning, the premisses do precede the conclusion in time, but the premisses are still premisses after the conclusion has been drawn, and indeed, are not strictly speaking premisses at all until the conclusion is drawn. The conclusion, again, cannot in any but the most superficial sense be said to follow the premisses in time, since it is only a conclusion in so far as it is determined by the premisses. Further, even where the recognition of the conclusion follows the postulation of the premisses, it is not the premisses alone as postulated which determine the conclusion but the system within which the premisses operate and the conclusion remains.

Such, in spite of the analogical character of the elucidation, is the nature of the permeation that belongs to duration. The conditions governing abstract formal inference are necessarily an inadequate representation of real productivity; but a perfectly adequate expression of this would pass beyond analogy to identity, beyond abstract implication to concrete production. The creativity of duration is one with the determination of spatio-temporal occurrence of concrete particulars, and this again with the production by the eternal whole of its own finite expressions or partial content. It is the nature of the whole so to express itself and constitute itself, and since *ei non defuit materia* the expressions are of all degrees of perfection, and cannot but appear, therefore, to the finite expressions themselves, as selective and successive, *i.e.* as involving limited duration. The creativity of duration, therefore, is but a finite extract of real creativity which is eternal and constitutive. There is some danger that in our anxiety to maintain the reality of duration, upon which all other reality seems to, and in a sense does, depend, we may imagine either, on the one hand, that it can be real as an unmoving and immovable *hyle*, or, on the other hand, that its reality must be conceived as a creativity that "passeth understanding" and can only be met appropriately in that spirit of artificial stupidity which is sometimes made to pass under a better name. But the reality of duration consists in its positive quality rather than in that quantitative exclusiveness which is its *prima facie* character. That positive quality is caught up into eternity, while its externality and limitation, its negativity, is lost. In the same way the eternal blessed-

ness of God is not a summation of the joys of finite modes (which would necessarily be qualified by their sorrows); it is their consummation, explanation, and infinite completion. *Laetitia* is the realising of perfection in its degrees, its temporal achieving; *acquiescentia* is the realisation of a perfection already achieved; *beatitudo* is the realisation of perfection and its eternal achievement, it is the ideal limit of both *cupiditas* and *laetitia* as they constitute a being for whom transformation involves no succession. Duration only elapses in so far as the mind drifts; for the thinking mind it 'wells up'; for the free man it is a 'well springing up into eternal life'; and for the being that thinks all things and is all things in their real order and efficiency, the existence which 'wells up' is eternity itself.

Further elaboration and defence of our thesis would be impossible without proceeding beyond our present limits of space to those absorbing problems which relate to Spinoza's doctrine of the eternity of the mind. We must content ourselves with something more modest and summary, though also with something much less than adequate. Duration, we shall say, is only a mode of imagining the existence of things; Time is a further aid in perfecting it (*i.e.*, in reducing it to absurdity); but Eternity cannot be discovered by the use of *Imaginatio*, but only by means of *Intellectus: si quis talia ejusmodi Notionibus, quae duntaxat Auxilia Imaginationis sunt, explicare conatur, nihilo plus agit, quam si det operam, ut sua imaginatione insaniat* (Ep. 12). And it is because we assume, partly justifiably and partly not, that a real existence must bear some resemblance to the existence we ascribe to the objects of sense-perception, and which we think we understand until we try to explain it, that we rebel against the conception of existence which we are asked to ascribe to the objects of intellect, *i.e.* to real things. But the notion of existence which *prima facie* we derive from sense-perception, *viz.* the occupation of spatio-temporal position, is really negative; we learn nothing but that what is here-now is other than what is there-then. But the very slightest exercise of reasoning or thought leads us from the here-now to the there-then, and their difference is recognised as a difference in unity and not a mere negation. Nor is their unity a mere association or aggregation, or purely quantitative relation (for reason all the parts of space-time are alike), it is a unity of principle which with all its differences (and not only those given) constitutes a concrete universal determining events in space-time, but not itself an event of the same order. So, and only so, an enduring world is constituted, and not of located 'nows'. And perception itself,

therefore, is only possible so far as its *prima facie* principles have been transcended, and mere exclusion overcome. Further, we must recall that it is the clear teaching of Spinoza that *Imaginatio* itself is not necessarily wholly false; when, and so far as, it is taken for what it really is, it is true, and without some transcendence of partiality and fragmentariness there would be no perception, for there would be no content to perceive. No one has ever perceived an event, *i.e.* a point-instant, or even an event-block or continuum of point-instants. What we perceive is something occurring, *i.e.* the content of space-time. What we perceive is essentially something that endures as well as something that occupies point-instants.

Thus when the intellectual criticism of the world of perception carries us to a world which we essentially perceive *sub quadam specie aeternitatis*, we are only moving farther along the road that led to perception from impercipience. We may freely resign ourselves to that criticism of thought already begun and constitutive of things perceived. That criticism cannot be limited; if it applies to the details it applies to the main business: things are as they are correctly thought, coherently thought; and the existence enjoyed by things is to be interpreted not by the exclusion and otherness that more obviously characterises it in the world of perception (but could never constitute even that) but by the inclusion and identity discovered by reason, and already enjoyed in their degree by the partial objects of perception, and more fully enjoyed as inclusion and identity become more full and intimate.

In duration itself, therefore, we must find the clue to the concrete character of eternity; and though we may well admit that Spinoza passed too rapidly from the clue to the completion, and thereby short-circuited the current of intellectual criticism, and thus concealed the infinite content of eternity, yet we must hold that for him duration is the limited conception, and eternity the infinite. *Deo infinita actu existentia competit . . . atque hanc infinitam existentiam Aeternitatem voco* (Cog. Met. II. 1). And it follows further from the clue provided by perceptual experience, that the existence which is eternity is not an empty form of existence, but particular existence. For it is duration that constitutes the particular content of perceived existences, and it is eternity itself that exists in the eternal, and is thus the very content of the Real. M. Bergson has made duration itself the ultimate reality, but for Spinoza eternity is the reality of duration, and therefore the very stuff of the Real. *Quasi aeternitas absque essentiae divinae contemplatione intelligi posset, vel quid esset praeter divinam essentiam.*

III.—COOK WILSON'S VIEW OF JUDGMENT.

By Richard Robinson.

The late Prof. Cook Wilson's View of Judgment is not to be had for a simple perusal of *Statement and Inference*. This book is very difficult to understand as a whole. It contains writings from widely separated dates. The terminology is not the same throughout. And the views maintained are themselves sometimes contradictory, though not often so. These things make it difficult enough. But the grand difficulty is this, that while the book is throughout deeply stamped with Cook Wilson's own unusual views, it yet contains no full and co-ordinated account of what is most unusual and most important in them. It is composed chiefly out of logic lectures. But what is most important in Cook Wilson is not his views on logic in the narrow sense, but his view of knowledge. This view is never adequately set out in the logic lectures, although it shines through them and controls them all. For these reasons it is justifiable to offer an explanation of Cook Wilson's view of judgment, in spite of the facts that the book is at hand for all to read, and that a great many persons alive to-day have heard the man himself. It is not merely justifiable but highly desirable, if there is any weight in Cook Wilson's views, for the reason that these views involve the imputation of a fundamental and far-reaching error to a philosopher whose influence in England is very great, to wit, F. H. Bradley. *Cook Wilson maintained that the notion of judgment, which is central to Bradley's thought, is a false and vicious notion, because it confuses knowledge and opinion.* The explanation of this view is simply the explanation of Cook Wilson's view of knowledge and opinion. In order to understand Cook Wilson's view of judgment we have to discuss not judgment but knowledge and opinion. Once we understand what he thought about them, we understand without much further inquiry what he thought about judgment.

Cook Wilson held that knowledge is something ultimate, and therefore indefinable. Knowledge is one of those 'so-called ultimate distinctions explicable from themselves alone.

This does not leave our notions indefinite, because the nature of such undefinable universals is perfectly definite and is apprehended by us in the particular instances.' 'The genus consciousness and its species knowing are universals of the kind just characterised; no account can be given of them in terms of anything but themselves. The attempt in such cases to give any explanatory account can only result in identical statements, for we should use in our explanation the very notion we professed to explain, disguised perhaps by a change of name or by the invention of some new term, say cognition or some similar imposture. . . . We cannot demand an answer to any question without presupposing that we can form an estimate of the value of the answer, that is that we are capable of knowing and that we understand what knowing means; otherwise our demand would be ridiculous. Our experience of knowing then being the presupposition of any inquiry we can undertake, we cannot make knowing itself a subject of inquiry in the sense of asking what knowing is. We can make knowing a subject of inquiry but not of that kind of inquiry. We can for instance inquire how we come to know in general, or to know in any department of knowledge.' [1] Knowledge is as such knowledge of an object. Apprehending is by nature apprehending something. The apprehension is thus inseparable from its object, in the sense that without the object there cannot be an apprehension, and to speak of an apprehension without an object is to speak nonsense. But the object must necessarily have some being distinct from its being apprehended, and must be apprehended as having this distinct being. Consider two bodies in the relation of collision. The being of the collision involves the being of the bodies; and it involves their having a being distinct from their being in collision. For only bodies which are something else besides in collision can be in collision. In this way the apprehension, while it is inseparable from the object, involves the object's having a being other than its being apprehended.[2]

Whenever we try to explain or define knowledge, we must, on Cook Wilson's view, fall into error, because we are assuming a falsehood, to wit, that knowledge is definable. Cook Wilson indicates two main aspects of the error into which we fall. The first of these is that we tend to represent knowledge as some form of doing or making, analogous to practical activity in the physical world. 'Whereas we have to do

[1] *Statement and Inference*, 39. All unspecified references are to this book.

[2] 74.

with the relation of subject and object, we try to express and explain various aspects of this relation in our ordinary categories which are all of the relation of object and object. . . . The only remedy is to look into the nature of the thing before us *where we are certain of it*, and see if it really admits of such categories. If we do that we shall find these functions or activities of the thinking subject often cannot admit of such categories. If we think of knowing as an activity, as doing something, then, as if we had to do with relations of objects, we require a something to which something is done and a something in it which is done something to—in fact, as one object in causal activity produces a change in another object, we think that the knowing subject must, in knowing, do something to the object it knows and that object must suffer something. Or if we do not envisage this to ourselves clearly . . ., we tend to think on this principle. Now we must know something about knowledge, and we know when we reflect that the very idea of it is incompatible with any such *action* upon, or *suffering* in, the object known. You can no more act upon the object by knowing it than you can 'please the Dean and Chapter by stroking the dome of St. Paul's'. The man who first discovered that equable curvature meant equidistance from a point didn't suppose he had 'produced' the truth—that absolutely contradicts the idea of truth—nor that he had changed the nature of the circle or curvature, or of the straight line, or of anything spatial. Nor does anyone else suppose so. Obviously if we 'do anything to' anything in knowing, it is not done to the object known, to what we know, for that simply contradicts the presuppositions of the act of knowledge itself. If we persist in trying to find something done to the object, we are simply using a category applicable to the relation of object to object and not applicable to the relation of subject to object, and must fall into all manner of fallacies.'[1] 'What . . . is gained by "construction"? When you have your construction you still have to *apprehend* it. . . . Knowledge and apprehension can only be described in terms which already mean knowledge and apprehension.'[2]

The view which Cook Wilson here maintains may perhaps be summed up in these words. The essential difference between knowledge and practice is that whereas to act on a thing is to alter it to know it leaves it unaltered. Once we make knowledge into alteration the true nature of the thing has slipped from our grasp. Cook Wilson's view is thus con-

[1] 802. [2] 803.

tradictory to a common view which is exemplified for instance in this quotation: 'Knowledge does not merely find and accept; from the very beginning it modifies and constructs'.[1] According to Cook Wilson this kind of view is an error arising out of a misdirected effort, the attempt to explain knowledge by stating what it consists in. This attempt is misdirected because knowledge does not consist in anything but just knowledge, and it is the not having noticed this fact which gives rise to the error.

The second main kind of error which according to Cook Wilson arises when we try to define knowledge or explain it in terms of something other than itself, is representation or the idea-theory. Each act of knowing is really the knowing of its own proper object, and not the knowing of some idea which is not its object. This fact is contradicted by idea-theories of knowledge. 'We want to explain knowing an object and we explain it solely in terms of the object known, and that by giving the mind not the object but some idea of it which is said to be like it—an image (however the fact may be disguised). The chief fallacy of this is not so much the impossibility of knowing such image is like the object, or that there is any object at all, but that it assumes the very thing it is intended to explain. The image itself has still to be *apprehended* and the difficulty is only repeated. We still distinguish the image and the knowing, or perceiving, or apprehending it. The theory which is to explain subjective apprehension of the object cannot, as one could predict, do anything but presuppose the absolute ultimate fact of apprehension of an object, and so explain apprehension of the object (unconsciously) as apprehending another object like it.'[2] (In this quotation Cook Wilson asserts that in all representative theories the representative element is really nothing but the mental image. Even if that should be an overstatement, the chief force of Cook Wilson's contention remains. It may be put thus: (1) the introduction of an idea or conception is no explanation of apprehension, because unless this idea is itself apprehended knowledge cannot take place, and if this idea is apprehended we have not explained apprehension: (2) even if there exists in my mind an 'idea' of the reality A, whatever such an idea may be, at any rate my apprehension of A is my apprehension of A and not my apprehension of my idea of A: if I know A at all, then what I know is just A itself, and not some idea of A which I have

[1] Bosanquet, *Implication and Linear Inference*, 132.
[2] 803.

in my head. These two points seem to be the essence of Cook Wilson's argument here, and they are independent of the question whether the idea always turns out to be a mental image or not.) Bradley's definition of judgment is a case in which the idea-theory presupposes that which it professes to explain. "'Judgment is the act which refers an ideal content to a reality beyond the act'; 'reference' is a vague term, and we must ask what kind of reference is intended. It simply means that, in A is B, Bness is referred to A, and, if we ask how it is referred (for the judgment is more than that), referring cannot actually mean giving B to A. Thus the only reply can be that we judge that the reality A has the reality Bness. Thus 'referring' means judging and . . . the act of judgment is defined by itself."[1] (Bradley's meaning is perhaps not exactly that 'in A is B, Bness is referred to A,' but rather that in A is B, A's being B is referred to reality in general. But Cook Wilson's criticism holds of this interpretation of Bradley just as well as it holds of his own.) A more usual form of the idea-theory is that judgment is 'putting together' ideas or conceptions. But 'we are bound to say what sort of putting together we mean; for the expression 'putting together' is in itself too vague to tell us anything, being only a metaphor derived from putting objects together in space. Now such putting together of ideas as we here really mean is simply judging that the object to which the one idea refers possesses the kind of being to which the other refers; so that, if we ask what kind of putting together judgment is, we have to use 'judging' to explain it'.[2]

Thus apprehension is not, according to Cook Wilson, an affair of ideas in the way in which the representative theories would have us believe. Yet the word idea is a common term, and its use seems to be legitimate. What then is the real nature of an idea? Cook Wilson's answer is as follows. By 'idea' we mean more than one thing. Consider first the case of a wrong or improbable opinion, which we might call a mere *idea* or 'only an idea of ours'. Now the idea here cannot be a mental image or a combination of mental images, for a mental image is neither true nor false. 'If I think wrongly that "Williams is in his rooms," no doubt I have before me an "idea" of the rooms and of Williams in them as mental pictures. Still my mistake does not lie in this presen-

[1] 285.

[2] 277. Here Cook Wilson uses the word 'judgment' to convey his own views, and it will be necessary to quote other passages where the same usage recurs. In these cases 'judgment' means knowledge or apprehension.

tation to consciousness, but in something else, that is in my belief that reality somehow corresponds to this combination.' That which is false in this case 'may be naturally and properly called "idea": it is indeed ideal, but it is precisely that activity of thought which is other than the combination of these mental pictures. It is the belief that certain real elements are combined, or, if we wish to relate this to the mental pictures, it is not their combination in the mind, but the belief that there is a combination in reality somehow similar to it. This is what we mean by "idea" when we say that our idea is wrong.' [1] In this case then what 'idea' means is an opinion or belief. Whether the opinion is true or false makes no difference. In either case we might naturally call it an idea. Now consider another kind of idea. 'Suppose an object of perception—Cologne Cathedral. If asked what was my idea of it, I should at once state certain judgments of mine that the church (a reality) had certain real attributes when I saw it. Such judgments are accompanied by a mental image, but that is not my conception or idea *of* the church, nor do I say it is.' [2] In this case what is meant by idea is knowledge, the knowledge that Cologne Cathedral has such and such a shape and looked in such and such a way at a certain time. 'The ideal element we are looking for, and always (all of us) tend to misrepresent as an image of the reality, is the apprehending side as our act; the fact that we apprehend the reality.' [3] So far then we see that idea may mean either knowledge or opinion. But if it only means these two things it seems a superfluous word. It has, however, a further meaning. Cook Wilson indicates this further meaning with regard to conceptions. What he says applies equally to ideas. It is as follows. 'When we have been through the process of forming the opinion that X is Y, or of judging the same thing in a proof, our thought about X is changed; we no longer think of it as merely X but also as being a Y. After we have formed the judgment (or the opinion)—then, when we think again of X we may think of it, that is treat it in our thoughts, not only as X but as a Y. This is clearly not the original judgment that X is Y, for we need not have that judgment before us. It is enough that we remember, in the case of a proof for instance, that we proved X to be Y, without going through the proof again; indeed we have sometimes forgotten the proof. In accordance with this we may go on to prove something of X which follows from

[1] 276.
[2] 807; *cf.* pp. 300 ff. on Conceptions.
[3] 808.

its being a Y. We treat X then as a Y, and yet are certainly not judging that X is Y, because that would mean proving that X is Y, and we have not the proof before us. This example shows that there is a thinking of X as Y, which is not strictly speaking judging that X is Y, though it depends on this judgment.'[1] Thus 'my idea of X' may mean what I now treat X as being owing to previous apprehensions or opinions about X. We have thus three meanings of the word 'idea,' (1) knowledge, (2) opinion, (3) that habit of treating X as a Y which arises out of former apprehensions or opinions. *Besides these three senses there is no other meaning of the word 'idea' except mental image.* In every case where we speak of an idea, examination will show that what is meant is one of these three things, or a mental image. This reveals in detail the way in which idea theories must be false. If 'idea' is used in sense (1) the explanation is circular. If it is used in sense (2) knowledge is confused with opinion. If it is used in sense (3) either the explanation is circular or knowledge is confused with opinion. If 'idea' means merely 'mental image,' the theory is one which was finally discredited with Hume. Knowledge cannot be reduced to an affair of images. The unique fact of apprehension remains over, when we have detailed all the images present in the mind while any act of knowing is occurring.

The relation of imagination to apprehension, as Cook Wilson conceives it, is briefly this. All apprehension whatsoever requires as a condition of its occurrence, the occurrence either of sensation or of imagery. But this sensation or imagery is not *part* of the apprehending, nor is it what is apprehended (except in the special case when we are attending to our own sensations and images): it is simply a condition of the apprehension. When we think about realities, individuals not present to us, we form mental images which are our imagination of what the reality really looks like.[2] This helps us to keep the reality in mind; but it is not our knowledge of the reality, it is something which accompanies that knowledge. When we think of universals we use mental images, because we can only think of the universal as realised in a particular and the mental image is of use as the image of such a particular.[3] In this way we employ images when we think geometrically[4]—though in geometry of course we more often make use of actual perceptions by drawing a figure. All universals are apprehended only in particular cases. Even the general form of syllogism is unintelligible

[1] 301-302. [2] 292. [3] 292. [4] 415.

until we see its necessity in a particular case.[1] In this way images are necessary aids to all knowledge. But they are neither part of the knowing activity nor (in ordinary circumstances) part of what is known.

There exists, according to Cook Wilson, an activity of the mind distinct from knowledge, which we call opinion. 'If we say we "think" A is B, it is understood that we are not prepared to say we "know" A is B. We are accustomed to say, "I don't know but I think so".'[2] In using this language we are ascribing an opinion to ourselves, and distinguishing opinion from knowledge. 'Opinion involves knowledge; but the opinion itself must not be confounded with that knowledge. It is characteristic of the cases where we form an opinion that we notice a certain quality in the evidence, in virtue of which we say the evidence known to us is stronger for one alternative than for the other. We know, that is, that certain facts are in favour of A's being B, but either that they do not prove it or that there are facts against, though not decisively against, A's being B. But this estimate is not the opinion. We are affected by it so as to form the opinion, yet the opinion is neither the knowing which constitutes the estimate nor any kind of knowledge. It is a peculiar thing—the result of the estimate—and we call it by a peculiar name, opinion. For it, taken in its strict and proper sense, we can use no term which belongs to knowing. For the opinion that A is B is founded on evidence we know to be insufficient, whereas it is of the very nature of knowledge not to make its statements at all on grounds recognised to be insufficient; . . . for it is here that in the knowing activity we stop.'[3] Proper to this unique activity is a 'feeling of confidence,' which does not accompany knowledge because it would be irrelevant to feel confidence in what is certain. When this feeling of confidence is present in a high degree we speak of belief rather than opinion.[4] Belief is not distinct in kind from opinion. They are the same activity, distinguished according to the degree of confidence accompanying it.

Opinion according to Cook Wilson is indefinable just as knowledge is. It has the general character of being an activity of consciousness, but its differentia is just the unanalysable character of being opinion. It is not however quite one of those 'ultimate distinctions explicable from themselves alone'.[5] To understand opinion we have to know knowledge as well as opinion. Opinion is to be understood 'through itself and through knowing'.[6] For opinion involves know-

[1] 462-463. [2] 36. [3] 99. [4] 102. [5] 39. [6] 37.

ledge. In the first place, it involves knowledge of evidence, for it is just our knowledge of the evidence which gives rise to our opinion. Furthermore, the opinion that A is B necessarily involves the knowledge of A and the knowledge of B. (Of course, A itself may be only opined, and not known, to exist. But in this case, if we examine in turn the opinion that A exists, and go far enough back, we come to knowledge in the end. For example, the opinion that A exists may be, in more detail, the opinion that XY exists, *i.e.*, that X is Y. And here we either know X, or at any rate X can be further distinguished into elements which *are* known. We always come to knowledge in the end. This is loosely but conveniently represented by saying simply that the opinion that A is B involves the knowledge of A.) Lastly, the opinion that A is B involves the knowledge that we do not *know* whether A is B or not. Opinion is thus necessarily the act of a knowing mind. It presupposes knowledge and is impossible apart from it. It is the attitude of a mind which, knowing something, requires to know more, and is unable to do so. Like the other forms of thinking, it arises 'from the desire to know or from some other relation to knowing,' and is 'unified with knowledge by a special relation, depending upon its peculiar nature and *sui generis*, intelligible and only intelligible by a consideration of the particular case'.[1]

Cook Wilson enumerates four other forms of thinking: (1) inquiring, (2) forming opinions, (3) wondering, (4) deliberating.[2] He lays no particular stress on this list, and it does not appear to represent his real view. In the first place, inquiring and wondering do not appear to be distinguishable. The word 'inquiring' more usually refers to speaking than to thinking, but if it is referred to thinking it must mean precisely wondering. This is probably Cook Wilson's real view. In one place he couples 'wondering and inquiring'.[3] And his account of 'questioning or wondering' seems to imply the identity of these two things.[4] In the second place, 'deliberating' appears to be only a name for whole trains of thought including both knowledge and opinion and wonder. Cook Wilson's account of it seems to involve this: 'when a man is planning something . . . he is partly wondering and inquiring, partly learning and knowing, and partly forming opinions as to what would suit his purpose.'[5] Thus Cook Wilson really produces only two forms of thinking besides knowledge, and these are opinion and wonder. And these seem to exhaust the list. With regard to wonder, it is again

[1] 38. [2] 37. [3] 37. [4] 36. [5] 37.

an indefinable activity, to be understood only through itself and through knowing. To wonder whether A is B involves the knowledge of A and B in the same way as to opine that A is B. Nor can the presence of wonder be conceived at all in the absence of knowledge, for the very nature of wonder is to strive towards knowledge. Wonder presupposes the desire for knowledge.

With regard to these three forms of thinking, knowledge, opinion and wonder, we have to note that according to Cook Wilson they are not the species of a genus. Thinking is not a genus or a class. If it were a genus it would be a character common to knowledge, opinion, wonder, and to them alone. The only character common to these three is the being activities of consciousness. But they are not the only activities of consciousness. Will and desire also come under that head. There is no character which is common to knowledge, opinion, wonder, and to them alone. Therefore they are not species of which thinking is the genus. Why, then, are these three activities, and these three only, called thinking? Because of the intimate connexion which they have together in the fact that opinion and wonder both presuppose knowledge. Opinion and wonder are, as it were, the appendices of knowledge. They are impossible apart from knowledge and their being is to attend on knowledge. We understand opinion and wonder only by seeing their connexion with knowledge. And in seeing this connexion we see the unity of the three in virtue of which they all and they only are called thinking. 'The unity of the activities of consciousness, called forms of thinking, is not a universal which, as a specific form of the genus activity of consciousness, would cover the whole nature of each of them, a species of which thinking would be the name and they would be subspecies, but lies in the relation of the forms of thinking which are not knowing to the form which is knowing.'[1]

We must distinguish from this point, that knowledge, opinion and wonder are not the three species of any genus, the further point that knowledge and opinion are not the two species of any genus. This might be denied by a man who yet conceded the former point. For he might say: 'Granted that there is nothing common to knowledge, opinion, wonder, and to them alone, yet I hold that there is something common to knowledge and opinion, and to these two alone, as opposed to wonder and every activity of consciousness'. What Cook Wilson says on this point is as

[1] 38.

follows: 'For [the opinion], taken in its strict and proper sense, we can use no term that belongs to knowing. For the opinion that A is B is founded on evidence which we know to be insufficient, whereas it is of the very nature of knowledge not to make its statements at all on grounds recognised to be insufficient, nor to come to any decision except that the grounds are insufficient; for it is here that in the knowing activity we stop. In knowing, we can have nothing to do with the so-called 'greater strength' of the evidence on which the opinion is grounded; simply because we know that this 'greater strength' of evidence of A's being B is compatible with A's not being B after all. Beyond then the bare abstraction of conscious activity, there is no general character or quality of which the essential natures of both knowledge and opinion are differentiations, or of which we could say in ordinary language that each was a kind. One need hardly add that there is no verbal form corresponding to any such fiction as a mental activity manifested in a common mental attitude to the object about which we know or about which we have an opinion. Moreover it is vain to seek such a common quality in belief, on the ground that the man who knows that A is B and the man who has that opinion both believe that A *is* B. Belief is not knowledge and the man who knows does not believe at all what he knows; he knows it. We might as well say at once that knowledge is a kind of opinion as that it is a kind of belief.'[1] Cook Wilson's view here is clearly correct. It is a case simply for careful examination of the facts. It does not follow necessarily from knowledge and opinion being both unanalysable natures that they can have nothing in common, for indefinable natures may have much in common. For example, red and blue are both indefinable: yet they are alike in being colours and in being qualities. And knowledge and opinion, like red and blue, *have* got something in common. But the point is that they have nothing in common which is common to them alone. The whole set of colours have something in common (that is, the being colours) which belongs to nothing else whatever. There is no parallel to this in the case of knowledge and opinion. For what is common to these two is the being activities of consciousness: but that is common to other things also, for example, to wonder. There is nothing which knowledge and opinion have in common, which wonder does not have also.

We are, I fancy, led to suppose that knowledge and

[1] 99-100.

opinion have a common attribute which wonder has not, by the following confusion. If we consider the statements which we commonly make, and take them perfectly literally and on the assumption that they are in no way elliptical, we shall see that they have the appearance of dividing into two classes (1) statements of what we know, (2) statements of what we only opine. The statement 'two and two make four' belongs to the former class; the statement 'it will rain to-morrow' belongs to the latter. Unless this latter statement is really an ellipse for 'I think it may rain to-morrow,' it seems definitely not to mean something which we know but something which we opine. If this is so, then there is one kind of sentence, namely the statement or proposition, which serves for two kinds of thought; the statement is the vehicle both of knowledge and of opinion. Whether this is really so or not, at least we commonly assume that it is so. We commonly take it for granted that the statement can express either knowledge or opinion. And we contrast this state of affairs with the case of another form of sentence—the question. It is obvious that the question is the vehicle of one kind of thought only (apart from tropes and tricks of language), and that is wonder. It appears to us, therefore, that knowledge and opinion find expression in the same form of sentence, whereas wonder has a form to itself. And this it is, I believe, which makes us tend to suppose that knowledge and opinion have something in common which wonder has not. Our feeling easily finds expression in such phrases as this—'Knowledge and opinion are both assertion: wonder is not'. And in this phrase surely we find the error suggested. For assertion is properly nothing but the uttering an affirmative statement, and yet in this phrase assertion is confusedly thought of as if it were not speaking but thinking, since knowledge and opinion are said to be assertion. In fine, then, the reason why we tend to suppose that knowledge and opinion have something in common which wonder does not share, appears to be connected with our belief that whereas wonder has a form of sentence to itself, knowledge and opinion share a form between them. We suppose that why they thus share a form of sentence is because they have a special character proper to themselves alone. And, at the cost of confusing speaking with thinking, we are able to represent to ourselves this special character which they have as being the character of 'asserting,' of 'affirming or denying'. But this common character is a fiction, and the true meaning of the words 'assertion, affirmation and denial' is not an act of thought at all, but an act of speech.

We can now determine Cook Wilson's view of the notion of judgment in very few words. To what kind of thought can the word 'judgment' refer?

What is at once obvious is that 'judgment' cannot stand for anything common to knowledge and opinion. For we have seen that there is nothing common to them but the being both activities of consciousness, and 'judgment' certainly means more than an activity of consciousness.

Next, 'judgment' cannot mean opinion. In the first place, those who use this word would not be content to have all 'judgments' described as opinions. Secondly, among the examples of 'judgments' which are offered to us are many which are certainly not opinions. It would be said to be a 'judgment' that 'two and two make four'. But this is nothing that we opine. Nor is it anything that we believe. For belief, which is confident opinion, is only possible where we do not actually know. But in this case we do know. That two and two make four is something of which we are certain. Thus the examples of 'judgments' remove the possibility that 'judgment' means opinion.

But again, 'judgment' cannot mean knowledge, for the same kind of reason. In the first place, the activity of 'judgment' is considered to be in principle fallible. Many 'judgments' are held to be improbable, and many are held to be false. And a great deal of thought is devoted to the question how the truth of 'judgments' can be assured, the coherence-theory being the means most generally adopted. There is no such fallibility in knowledge. Secondly, among the examples of 'judgments' are many which neither are known nor can be known. 'It will rain to-morrow,' for example, is considered a perfect example of a 'judgment'. But it is something that cannot be known.

We see then that 'judgment' cannot mean either knowledge or opinion or something common to both. And yet surely 'judgment' is meant to be something concerned with knowledge and opinion. For 'judgment' is certainly meant to be thinking and it is certainly not meant to be wonder. But what thinking is there, which is neither knowledge nor opinion nor wonder? The answer to this question is that there is no other kind of thinking, and that it is impossible to get clear what we mean by 'judgment,' because that word represents precisely the confusion of knowledge and opinion together. It is exactly the fiction that there *is* something common to knowledge and opinion. It is the non-existent bond between these two modes of thinking. All that we can find in the mind which bears any resemblance to what

we mean by 'judgment' is the two activities knowledge and opinion. These two activities are not species of a common genus, except as being both activities of consciousness. Therefore there is no place for the word 'judgment' in philosophic discussions at all. The two activities knowledge and opinion are described only by their proper names. If the word 'judgment' meant either knowledge or opinion it would be otiose and vague. Since it means both together it is vicious, because it suggests a common element which is not there.

Such is Cook Wilson's view of the notion of 'judgment'. This view imputes a grave error to a large number of English philosophers. It therefore requires weighty support. And this support ought to be not merely the exposition of those positive views about the nature of thinking which involve the assertion that the notion of 'judgment' is an error. It ought further to include an explanation of how and why such a widespread and serious error can have arisen. I hope therefore to follow up this article, which sets out only Cook Wilson's views about the nature of thinking, with a second one explaining his views of the *origin* of the notion of 'judgment'. On this point *Statement and Inference* is even more difficult to understand than it is on the *truth* of the notion of 'judgment'.

IV.—THE NOTION OF DUTY (II).

By W. D. Lamont.

II.

The conceptions of Right and Duty have often been analysed and explained, and naturally a great deal of what I say in this paper will have been said before. I make no apology for dealing with the subject at some length, however, because a proper appreciation of the notion of Duty is absolutely vital for Moral Philosophy.

It is difficult to know how to approach the subject. Possibly the best way will be to leave Morality quite out of account at the beginning, and confine our attention to the question of Legal Duty.

Legal Duty.

(1) *Duties.*—Not only should we leave Morality out of account in the first stages of this discussion, but it will be advisable to leave aside also all consideration of the 'notion' of Duty, and begin by considering definite duties;—'duties,' that is, as distinguished from Duty.

Legal duties are definite actions (either 'active' or 'passive' actions), and these actions are indicated and defined by particular definite laws. What is my duty as a citizen of this state? One of my duties is to do this particular action; another of my duties is to refrain from doing that particular action. What determines your duty, then, is not your inclination, not what you think would be good, not what you would like to achieve, but a *law* which is something quite different from an end or a purpose, a law which prescribes that you must abstain from having certain ends, and that you must pursue certain others. If you want to know what your duty is, you must go to see what the law ordains.

To take an example; let us suppose you are a member of a College where there is a rule that all junior members of the College must attend for roll-call at 8.15 a.m. on 5 days of the week. As a member, therefore, it is your duty to attend roll-

call. You may begin to ask yourself what this rule is for; you may decide that it serves a useful purpose. If this is the decision to which you come, good and well,—it will be easier for you to do your duty. But it isn't your duty *because* you see that roll-call is a good thing. It is your duty because it is the *law*, and it doesn't matter one brass farthing what you think about it. It would be your duty even if you thought that roll-call was very far from serving a useful purpose.

I suppose the obvious reply to this will be that we are reducing the performance of duty to mere blind obedience. But, we may ask, is this reply meant to be a criticism? Does it imply that if performance of duty is the same thing as unquestioning obedience to law, such performance of duty would be unworthy of a rational being,—brutish and craven?

Using the word 'blind' under protest, let us take an extreme example of 'blind' obedience,—the obedience, demanded in the army, of an inferior to a superior officer. There is a well-known maxim in the army that a soldier has to "obey first, and complain afterwards". A soldier in the ranks is not long in learning from the Sergeant-Major that he is not "paid to think," but to "do as he is told".[1] What is the explanation of all this? Can this kind of obedience have any real connexion with 'noble duty'? Is not the explanation, that blind obedience is demanded of a soldier because, as a matter of fact, he is too stupid to see that what he is told to do is really for the best, and for his own good?

But the problem is not to be disposed of so simply as this. In a defence force, or in a conscripted army, the greatest intelligence does not always belong to the superior officer. A subordinate might see quite clearly that he has been told to do something stupid or even disastrous, but this does not give him a vestige of justification for going his own way in defiance of orders. A superior officer might, indeed, recognise his own incompetence as compared with one of his lieutenants, and yet feel it entirely rational that he himself should receive implicit obedience if he claimed it.

It is assumed, in short, that we can act simply from respect for law as such, and for an officer as such, without reference to what the law is or who the officer is. And what is claimed

[1] "There are three things, young gentleman," said Nelson to one of his midshipmen, "which you are constantly to bear in mind. First, you must always implicitly obey orders, without attempting to form any opinion of your own respecting their propriety . . ." (quoted in Southey's *Life of Nelson*, chap. III.). The fact that Nelson himself deliberately disobeyed orders, at different times, because he considered his orders to be wrongly inspired, does not affect the point.

from us is not *blind* obedience, but simply obedience. If we ask what assumption must be granted if this claim is to have any significance, the answer is that the assumption underlying the whole notion of duty presupposes our ability to act out of pure respect for law, as law.

(2) *The Notion of Duty.*—The first conclusion we have arrived at, then, is that "you ought" *means* "it is the law"; and this brings us to our analysis of the notion of duty. "You ought" implies "you can," and in confronting a man with a law and telling him, "There is your duty," you are assuming that he can determine himself to act, not merely because he thinks a thing good or desirable or worth while doing; but also independent of such considerations. This, I say, you are assuming if you attach any intelligible meaning to the word 'Duty'.

Here, it must be remembered, I am not trying to say what Morality is,—whether it is obedience to law or anything else. I am simply dealing with the notion of duty, and trying to point out that the term does not, and cannot, refer to actions 'in so far as we think or know they will conduce to the realisation of some purpose, end, or good thing, which we think or know it is well to aim at and achieve'.

But we have not yet finished. We must try to explain more fully what we mean by saying that it is assumed we can determine ourselves to act simply out of respect for law, without reference to whether we think the action good or desirable. We have to ask, What is it that we respect? We have said that it is the law; but does this mean that we ought to respect any and every law which has existed, does exist, or will exist in our time?

Here again we must be careful, and not become confused as to the point at issue. We are not making any attempt to say *what* we ought to do, or what laws we ought to obey. We are trying to point out what, as a matter of fact, we assume we are capable of doing when we talk about doing our duty. This analysis of the conception of duty will not tell us *what* we ought to do. If any one asks us 'What is my duty?' we must reply by asking, 'Do you mean your legal or your moral duty?' If it is moral duty you are enquiring about, we are not concerned with morality at the moment. If it is legal duty you mean, you'll discover it by studying the laws of the realm. What we are asserting is that legal duty is determined by laws, and that the presupposition of all law is that whether we like them or not we *can* act out of respect for them.

To continue,—What is it that we are assumed to be

capable of respecting in a law? The answer is that we are assumed to respect laws, not in virtue of what they ordain, but simply because of their character *as* law, or (to put this in other terms), not their content, but simply their form. If we said it was their 'content' we respected, that would mean that we respected the College order with regard to roll-call, because it referred to roll-call and not because it was an order; or that we respected an officer's command because he commanded us to do this particular thing. That, however, would just mean that we obeyed because we thought it well that *what* was ordered should be realised;—it would be our duty to act in a certain way because we approved of the end to be achieved. This, however, we have seen is not what we mean by legal duty; and therefore it cannot be respect for the content of the law, but rather for the 'form' of the law, which we are assumed to possess.

It may be thought that this analysis will not fit the facts. Laws change, our duties change; and they change partly because people think that the existing laws are wrong. Still, if we keep to the issue we shall see that this changing of laws has no bearing on the point. Our legal duty,—our absolute, unqualified legal duty, is determined by the laws which do exist at any given time. If these laws change, then *what* is our duty changes, but the conception of duty (what duty means) does not change.

It will be obvious that I am here accepting Kant's analysis of the conception of duty. In the first section of the 'Fundamental Principles of the Metaphysics of Morals' where Kant is attempting to see what underlies the ordinary notion of Duty, he begins by striking out (*a*), all actions plainly inconsistent with what it is our duty to do; (*b*), all actions which as a matter of fact conform to the requirements of the law, but which are done as means to a further end, say, profit; (*c*), all actions done in conformity to the requirements of duty, and without any ulterior motive, but for which the agent has a direct liking. This does not mean that in the second and third instances the agent is not doing *what* as a matter of fact is his duty. It means that there is no clear indication that his action is a 'dutiful action'—or, as Kant would say, that he is acting 'morally'.

Kant's First Proposition, therefore, is that "A (moral) action must be done from duty, and not from inclination"; his Second that "Action derives its *moral* worth not from *the purpose to be attained by it*, but from the maxim by which it is determined". The Third Proposition is that "Duty is the necessity of acting from respect for the law".

From this Kant goes on to say, "As I have deprived the (moral, or dutiful) will of every impulse which could arise to it from obedience to *any* (particular) law, there remains nothing but the universal conformity of its actions to law in general". Kant, of course, is often understood to mean that there is *a* universal law, or *the* moral law; and then it is put to him by his critics that, either, this is a particular law; or, if it is not, he cannot deduce particular duties from it. Kant did indeed use the term 'universal law' at times, but surely his real point is fairly clear from the way in which he states his three Propositions. Even if he did think of *a* universal law at times, that is not what his analysis of duty leads to. It leads to the recognition of the fact that the conception of obligation is connected with the form of a law and not with its content.

The argument advanced here is that, if the notion of Duty is to be made intelligible we must assume that, even if law *may* be subsidiary to purpose or end, still the opposite relationship may hold,—end or purpose may be subsidiary to law. It is often held that this second relationship is an impossible and irrational one. We respect laws, it is sometimes held, because they are a means to something else; we respect particular laws because they help us to attain what we take to be 'good'; *e.g.*, the laws of the state are accepted or modified according to whether they do or do not help us to achieve a Common Good, or supply general plans of action for the realisation of a Common Purpose. The real significance of law, it has been said, is to be seen, not by looking at social rules and customs, but rather by looking at the laws or rules which an individual makes for himself. Such individual rules may provide for getting up in the morning, the regulation of working hours, etc., etc. These rules are all formed in subordination to a more or less comprehensive purpose,—admittedly; and yet obedience to them often entails the characteristically 'moral' struggle against inclination; and the individual may feel much worse over breaches of his own laws than he does over disobedience of a social law.

Greatly as appearances seem to favour the view that law is always subordinate to purpose, I think it would be extremely unfortunate if we were to throw in our cards at this point and admit defeat. We may admit that laws are always *formulated* in subordination to purpose, but does it necessarily follow from this that they are always *obeyed* because of this purpose? (At the moment, I am speaking about an individual's rules which he himself has made.) Surely there

are times when such a purpose becomes so hazy and so questionably worth while that the thought of it alone would not make the game seem worth the candle. Surely other ends may attract and dazzle at times, and the only thing which will make you resist their allurements is the law you have made, and not the thought of the purpose you had in making it. *E.g.*, you may have resolved not to read another novel until you have mastered Bosanquet's 'Logic' for examination purposes. After some days' hard work the first strong enthusiasm has become played out; you feel tired and dull, and in a mood for recreation. The suggestion comes to you: "Surely that was a silly resolution; after all, Knowledge is only one element in the Summum Bonum,—Pleasure also is included; and work itself suffers when it has become a mere grind. What is the good of getting a high place in this examination (assuming that hard work will get me a high place,—in itself a most questionable assumption), when I have to sacrifice so many other things which I desire quite as much as I desire a good degree?" Here is your very purpose being attacked and questioned, but surely you needn't necessarily confute the tempter with arguments. You can follow Luther's example, and banish him with an ink-pot; —"I said I wouldn't read a novel, and I won't; and that's the end of it". It is the law you have made which is keeping you from reading a novel, and not the purpose you had in making the law. Such reading was an act forbidden by your law, and it is the act from which you are going to abstain, and you are going to abstain because you said you would do so. The law is here guiding and controlling your purposes, your purposes are not guiding and controlling the law.

Thus it appears that even with regard to rules of personal conduct, the arguments are not all upon the side of those who hold that law is always subordinate to purpose. The arguments are much less strong in their favour when we come to consider social laws.

It seems to me that the notion of 'Common Good' or 'Common Purpose' has been accepted far too uncritically as a universal cure for all ills in Ethical and Political Theory, when I consider the doubtfully respectable history of this notion. In English Ethical and Political Theory it has been greatly in the air, particularly since the time of Green. But in Green's 'Prolegomena to Ethics' the passage from the notion of Self-realisation to the notion of Common Good is so extremely forced, that Bradley and Bosanquet could only justify it by taking Green's 'Social Self' literally, and by

talking about the General Will as a Will of Society. But if we reject their doctrine of the Real Self, as we must, then we cannot continue to hold that social and individual laws are precisely similar. Individual laws are made by a will for that will, whereas social laws are made to regulate the purposes of wills, and these laws may be made by all those wills or by one of them.

Therefore even if we admit that obedience to law is always dependent upon the striving after an end, in the individual (and this, as we have seen, is thoroughly questionable), it does not follow that the same holds good when we are dealing with *wills* and not with *a* will. There may be such a thing as a 'Common Good,' and indeed I should hold that the notion is a thoroughly defensible one; but I do not see that the Common Good is of such a nature as to make intelligible the notion of moral and political obligation. The notion of Duty is to be made intelligible by relating will to law, and not by relating will to personal or common good. This point has been missed, and the notion of Common Good has been held to be the essential thing, because so many philosophers are still in essential agreement with the account of 'Will' given in the Second Book of the 'Prolegomena'. The assumption underlying Green's whole account of Will is that will must always be directed towards an end,—that our motive is always a purpose, and never simple respect for a law. But if Kant's analysis of the notion of Duty be correct, then Green's Second Book gives a theory, not of the Will, but only of one side of the will,—purpose.

(3) *Rights and Duties.*—So far we have been concerned with the conception of Duty alone, and it does seem at least possible that actions are called 'duties' not with reference to our purposes or what we think or know it would be well to bring about, but rather with reference to something not dependent on our purposes.

It is very difficult, I think, to say anything more than this, so long as we confine our attention to the notion of Duty, but the suggestions developed above will receive a great deal of support from an analysis of the conception of 'Right'. By 'Right,' here, I do not mean what G. E. Moore means. For Moore, 'Right' is equivalent to 'Moral' or 'Expedient'. I shall use the term in its legal sense as meaning something which is possessed by a person.

Let us see, then, how Right is related to Duty. As defined by Vinogradoff (*Common Sense in Law*, Chap. III.), a Right is "the range of action assigned to a particular will within the social order established by law". Men *claim* rights.

'A' has the power to require from 'B,' 'C' and 'D' that they shall act or forbear to act in a certain way. Or, from the side of Duty, 'B,' 'C' and 'D' *owe* it, as a duty, to 'A' that they should act or forbear to act in certain ways.

Rights, then, are definite, specific rights. Just as legal duties are prescribed by a definite law or by definite laws, so with legal rights. If you want to know what your legal rights are, you must study the actual laws of the realm.

But the conception of Right is, in a way, precisely the opposite of the conception of Duty. 'Right' *does* refer to your purposes, or ends, or what you would like to achieve; and what the law does is, by prescription, to guard you in the pursuit of your purposes. It lays down that within a certain definite sphere on this point, and within certain definite limits on that point, you can do as you like. In prescribing rights, the law is not telling you something you ought to do. It tells you that, provided your actions do not have certain prohibited consequences, you are at liberty to pursue your purposes as you think fit, to let them go if you do not care to pursue them; and it tells every other person who may wish to meddle, that he had better keep his fingers to himself and mind his own business.

Rights are *primarily* negative. They define certain spheres of liberty, and require every one but the person who owns the right to stand back. But on the other hand, the granting or defining of rights does have positive consequences. If some of your rights cannot be secured without the *active* co-operation of other individuals, then you can *require* those individuals to perform certain acts. You are not compelled to make them perform these acts, but if it is your good pleasure that they should, then they must,—they are bound to do so as a matter of *duty*. You can treat other persons, within prescribed limits, as means to your ends,—use them if you want to, let them go if you don't.

The relation between rights and duties is well worth dwelling upon, because I think it brings out the essential character of duty. The plainest indication of the nature of Duty comes out where 'A's' right and 'B's' duty meet. A is a person who has a certain nature; he wills, desires, pursues ends, lives in a society, and his right to pursue certain of his purposes is recognised by law. B also is a person of a similar nature, with desires and purposes of his own. He feels that there is a great number of things he wants to do. He wants to secure bodily comfort, to gain

knowledge about certain things. In being guaranteed certain definite rights, he is being guaranteed freedom from interference by others in the pursuit of certain of these purposes; and there are certain specific limits within which he may use whatever means he likes for the achievement of these purposes.

But this freedom to do as he pleases is guaranteed to the individual only within limits, and there are certain means which he is prohibited from employing for the achieving of his purposes, and certain purposes he is prohibited from pursuing. It makes no difference if these means are the best or the only ones which will realise his end; if the end cannot be achieved without these means then it must be given up. Similarly, certain ends must be given up because they are themselves prohibited. Why are these means or ends prohibited? Because they trespass on the rights of others, and the same law which has left us free to pursue certain of our purposes, has also secured freedom from interference in the pursuit of their purposes to other persons. Where our actions affect others, and where our actions would force them to act in ways in which they do not desire to act, unless their acting in this way is demanded by our rights, it is our duty to abstain from affecting them in this way because we are infringing *their* rights.

The recognition of rights and duties, then, implies that although there is a certain range of action within which we need only consider our own purposes and the best means to their realisation, there are points at which we have got to consider something else. It implies that, in respecting my rights, other persons can determine themselves to act in a way which may conflict with hopes and desires which have been very dear to them; and it implies that the *determining* factor in their so acting is the recognition that my rights would be infringed if they acted otherwise or abstained from acting.

It must not be assumed, of course, that a person who has duties also possesses rights. (Here, it must be remembered, I am speaking about legal rights and duties, and not about moral rights and duties.) In a tyrannic state, you owe duties to your sovereign, but he has no duties towards you because you have no rights against him. The same thing is implied in the doctrine of the 'Divine Right of Kings'. It is the duty of the king to treat you in a certain way, but it is only a duty to God, and not a duty to you. Unless the king were responsible to God, he would be responsible to no one, and would owe duties to no one. In the same way many

people would say that we have no rights against God,[1] and that therefore He has no duties towards us. But we do owe duties to Him. It is assumed that we can determine our actions according to His decrees, and this does not necessarily mean that we do so because we propose to make up for it in Heaven. The point I am trying to make is that duties *owed* by A do not necessarily imply rights *owned* by A; they imply only rights owned by B. Therefore duties may conceivably be owed by A and not by B, while rights would be owned by B and not by A. I do not know whether this point should be emphasised, but I think it is true; and if it is true,[2] then it is well to bear everything in mind which may possibly throw even a little light upon such a difficult subject as we are now concerned with.

At the risk of making some tedious repetitions, I shall try to state my point in a slightly different way.

It is sometimes held that the world of Nature is best fulfilling its *true* nature in being subjected to the control, and in being made the instrument, of the purposes of Mind or Spirit. This doctrine is not necessarily formulated in a spirit of sublime impertinence, and although I do not agree with it in many ways, I shall assume its essential truth for purposes of illustration. And because I am not going to discuss its truth, let me assume also that the relation, which it asserts to hold between Nature and Mind, holds also between any individual 'mind' or 'soul' or 'spirit' and the world of nature with which the individual mind comes in contact.

[1] *Cf.* the 'Westminster Shorter Catechism'—Q. 1. "What is the chief end of man?" A. "Man's chief end is to glorify God, and to enjoy him for ever." Q. 7. "What are the decrees of God?" A. "The decrees of God are, his eternal purpose, according to the counsel of his will, whereby, for his own glory, he hath foreordained whatsoever comes to pass." Q. 12. "What special act of providence did God exercise toward man in the estate wherein he was created?" A. "When God had created man, he entered into a covenant of life with him, upon condition of perfect obedience; forbidding him to eat of the tree of the knowledge of good and evil, upon pain of death." The answers continue: "Our first parents, being left to the freedom of their own will, fell from the estate wherein they were created, by sinning against God." . . . "Sin is any want of conformity unto, or transgression of, the law of God." . . . "God having, out of his mere good pleasure, from all eternity, elected some to everlasting life, did enter into a covenant of grace, to deliver them out of the estate of sin and misery, and to bring them into a state of salvation by a Redeemer."

[2] Needless to say, I agree with the common idea that 'duties imply rights' in the sense that a person owing duties *ought* to own rights; but just what I mean by this I hope to explain later on, when I come to the question of Morality.

This would mean that, confining myself to the consideration of the effects of my actions on the world of nature, and without any reference to the fact that my actions may also affect beings who are not parts of nature in this sense, nature has no rights against the imposition of my purposes upon her, no title to consideration, no title to dictate what ends I shall pursue or what means I shall take to realise them. Nature has no rights. The only way in which I 'consider' nature is that I must take account of what causes will initiate certain effects—or what means will serve my ends. But the justification of the ends I adopt and the means I take to realise them is that they *are* my ends and that they *are* the means which will bring about what I propose to bring about. What ends I strive for may vary from time to time, or I may change my mind about the means to be adopted; but these variations will be due, either to my preference for one end rather than another, or to my deeper insight as to how these ends are to be attained. All my actions, in fact, can be explained on the basis of the two principles which Kant calls the Assertorial and the Problematical Imperatives. The Categorical Imperative is simply not applicable to me. There is no obligation on me to have or refrain from having any particular purpose; there is no sense in which it is my *duty* to seek or eschew a particular end, and the only 'ought' which can apply is the conditional or Utilitarian 'ought'—"*If* you want A, do B". There is no duty owed by me because there is no right owned against me.

But immediately I come against a part of the world which is not simply a part of nature in the sense defined—in other words immediately I come up against other 'individual minds' who make claims against me—then I have got to stop considering only my own purposes and the means of fulfilling them. Positive and negative duties are demanded, and the Categorical Imperative comes into play.

Probably the foregoing argument is all very sketchily and unsatisfactorily stated. My excuse must be that the subject is extremely difficult. I should like to make my point, and the argument for it, a little more strongly, but there is the danger of becoming side-tracked, and the argument had better be left as it stands.

Moral Duty.

Up to this point we have been analysing the conceptions of Right and Duty from the legal side; and from the foregoing discussion I feel justified in drawing the following

conclusions. *What* is our duty is determined by definite, particular laws, or definite particular commands issued by one armed with authority supported by law. And we have duties because one or more persons own rights against us. That we owe duties does not necessarily imply that we own rights. What, then, does duty imply? The conception of duty implies that the essential and deciding factor determining how we act *need* not be that we think the action will produce a good, desirable, or valuable result, and that we can determine ourselves to act simply because an action *is* our duty—because that action is defined for us by law. It therefore implies that we can be determined or determine ourselves to act out of respect for law in general, irrespective of the content of the particular law before us, and irrespective of our own purposes.

But this is legal duty we have been talking about; and of course the question is bound to be raised as to whether it throws any light on 'moral' duty. It is generally recognised that moral duty is not the same as legal duty; but where does the distinction come in? I shall now proceed to give what seems to me a generally satisfactory answer to this question.

We often say that some particular law ought never to have been made, or at least ought now to be repealed. In other words, we often assert that a particular legal duty ought not to be a legal duty. But what can this mean? So far as I can see, it means simply that certain rights secured to A ought not to be secured to him, and that consequently certain duties demanded of B ought not to be demanded of him. We have therefore to attempt an explanation why, if duty can only be seen by consulting the law, you yet can say that a particular law is wrong, and that it 'ought not to exist,' and that it is the *duty* of some one to get it repealed.

The fundamental point to bear in mind is that the foregoing analysis of duty must be taken to hold good *wherever* that conception is employed. When we realise this, and keep it constantly in mind, it will let us see the way in which we ought to seek for the 'morality' of an action. You cannot discover *what* is your moral duty by pointing out that "duty means action according to law, and motived by respect for law in general," any more than you can find out your legal duty in that way. To discover what your moral duty is you must seek for something in 'morality' corresponding to statute or common law in 'legality'; you must look for particular moral laws to tell you what is moral.

Where, then, do these laws come from, and who makes

them? If I am not mistaken, Kant's answer, that the legislator is the individual person who obeys them, is the true answer; but it is one which can only be arrived at, and which can only be seen to be true, by a long and painful analysis—an analysis which I can only present in a very meagre fashion.

Let us begin by noticing a point previously dwelt upon—the point that legal duties may be owed by a person who yet does not possess legal rights. This may never be *strictly* true in fact, but we can see that it is quite possible, and that it was largely true of slaves, and of subject to sovereign in the Absolutist state of political theory. Again it was to a certain extent this issue over which the American War of Independence was fought. It is certain in practice that the proportion of rights owned by an individual, as compared with the duties owed by him, is sometimes very small; and against the theory and practice of 'duties without rights,' there has arisen from time to time the doctrine of 'Natural rights'. It would be out of place to say anything further about this doctrine here, but what it makes us recognise is the essential truth that every subject who is capable of having duties is also capable of recognising and of exercising rights.

The best way to see the significance of this, is to glance at Kant's treatment of the person subject to duty. Briefly, Kant's contention is that only one who can be determined *either* by the conception of law *or* by the conception of good, can be a subject of duties. His argument is apparently a most abstract one, but it is really of fundamental importance. Let us suppose a being possessed of a 'holy will,' *i.e.*, a being who never desires or values things. This being, then, could never be determined by the notion of good; he could never act for ends; he could never purpose; he would be without any 'inclination,' or notion of self-satisfaction. To such a being the notion of Duty could never be made intelligible, because for him to will would always mean to *legislate*. An Imperative would have no meaning for him.

Let us suppose, on the other hand, a being who could never have any motive *but* self-satisfaction; a being who could never be moved to act under anything but the notion of a good to be achieved. When we remember that 'good' means 'that which satisfies desire,' we must see that the notion of duty would mean nothing to this being, either. 'Duty' applies only where a being can be determined to act *either* by the idea of good *or* by the conception of law.

Now a being capable of having duties must necessarily be capable of having and exercising rights; because rights, as

we have said, refer to certain spheres within which we are at liberty to exercise our purposes and desires, and act for what we think is good. Thus a being capable of rights is one who can desire, purpose, and value things. But these capacities are also presupposed in every being who can have duties. Therefore a person capable of owing duties is also capable of owning rights.

From this, we can take the next step to Kant's famous doctrine of the 'Kingdom of Ends,' or 'Ends-in-Themselves'. And for a proper apprehension of this doctrine it is absolutely essential that we should distinguish, as Kant does, between an End-in-itself and an 'end'. The End-in-itself is not something you aim at or desire to realise. The Kingdom of Ends is an existing fact, or rather you have to act on the assumption that it is an existing fact. What Kant means is that it is a group or community of *persons*, and not a group of *things*—a community of beings who desire, purpose, and evaluate; and not a group of entities which are desired, purposed, or conceived to be good. The End-in-itself is not primarily something possessing *value*, but rather something possessing *dignity*. In other words, it is a person who acts for ends. The End-in-itself is nothing other than the subject of 'ends,' and it is called (somewhat confusedly) an End-in-itself because of this—because ends are relative to the desires and purposes of persons. These persons, then, are all capable of seeking ends and of employing means to ends; but before they can conceive of owing *duties*, they must be capable of something else, namely of being determined to act according to *law*. If they are capable of this, then it is possible for them to regard each other in two ways, *either* as ends or as means to ends; *or* as Ends-in themselves; *i.e.*, it is possible for one person to *value* another (as something whose existence gives you a sense of personal satisfaction—and, we may note in passing, it is this which, according to Green, forms the bridge between Self-realisation and Common Good;—or as something which can be a means to your ends), or to think of him as having *dignity* (as some one to whom we owe duties, and as some one who is of such a nature that, where he will be affected by our acts, we must determine ourselves not only by what we wish to achieve, but also by a law defining his rights).

Now the difference between a law of the State and a moral law is just this, that whereas a political law need not hold for the kingdom of Ends-in-themselves, a moral law *must* hold in that kingdom—*i.e.*, between persons considered *as such*. I shall try to explain this point a little further.

All laws are definite, particular laws, formulated to meet definite situations, and they are based on a study of the actual circumstances with which people are confronted. This applies to moral as well as to political laws. But whereas political laws *need* not be willed by all who obey them, moral laws must be so willed. Let us try to illustrate this point about moral law by means of an example. Let us suppose that one of your ancestors in the dim past forcibly appropriated a large tract of ground which really belonged to him in common with others. His neighbours' descendants have had to make the best of it, and, as a consequence of his unjust action, have always had to live in poverty. You, on the other hand, and largely because of his theft, are a rich landowner. A reform is going to take place; how is justice to be given all round? In atoning for your ancestor's injustice, it has to be remembered that 'penny for penny' retribution (even if it could be properly estimated) may be thoroughly unjust to you. What is wanted is some way of apportioning the property which will be acceptable to all concerned. Now the notion of the Kingdom of Ends assumes that you can get a plan which will be accepted by every one, if each person concerned really *legislates* for the circumstances. It is assumed that you, the landowner, could make a plan for the disposal of your property which would be exactly the same as the scheme made by the person who had suffered most from the consequences of the original confiscation.

You could, of course, make a rule about the disposal of the property which would be implicitly obeyed by all; but the fact that a law is *obeyed* by all doesn't necessarily imply that it is *willed* by all. The whole notion of duty implies that a person can obey a law whether he has willed it or not—that he can act out of respect for law, as law. A political law is of this kind—one which is not necessarily willed by all the persons who obey it. But a law which is not laid down by the person who obeys it cannot be a moral law. In the Kingdom of Ends the subject must also be the sovereign.

There is one other point to be emphasised with reference to the example I have given. When we say that a law formulated by one member of the Kingdom of Ends must hold for, and be willed by, all the members, what is postulated here is not *actual* agreement of the laws which all the members would make. People can take up arms against each other as a moral duty. People can read circumstances differently and they can conceive of their own and other persons' rights differently, and therefore the moral laws which they lay down can be in absolute antagonism to each

other. The agreement which is postulated is this: A person who legislates for himself and others, considered as members of a Kingdom of Ends, necessarily assumes that in so far as the other members really legislate and don't simply draw up a scheme of rights and duties to safeguard their own interests, the laws which they make will be exactly the same as his. The fact, if it is a fact, that the moral judgments of different persons are never the same has nothing to do with the matter. What does matter is the *claim* to universal validity which the moral judgment makes. Duty, we say, is an actual thing. Well, the notion of duty implies a standard which is not an end you desire to realise. The standard it does imply, we have seen, is a law. But a law, we have further seen, can only hold for those capable of rights as well as of duties. Now in talking of moral duty, you are implying a definite law from which this duty follows and you are claiming that it is a law which others will or ought to recognise. How can you make this claim? What are you assuming in making it? You are assuming that the law which you have affirmed or made must necessarily have been affirmed also by all the others, in spite of the fact that your and their interests, taken in themselves, may be entirely opposed; and therefore you are implying that any one person can dissociate himself entirely from what appeals to him personally.

A moral law is one which you yourself lay down; and it is a *pure* law. These two propositions imply each other. Since legislation is always legislation for a community of Ends-in-themselves, a law which is the result of pure legislation, and has not been made in the interests of the legislator's own ends, is one which would have been made by all. And any law which your legislative will cannot affirm cannot be a moral law.

This, then, is the essential difference between the laws of a state and the moral laws—between a law which defines your legal, and a law which defines your moral, duty. Unless you are actually a member of the government, you do not make the laws which define your legal duty. You *must* be the author of the law defining your moral duty. As a matter-of-fact, a law of the state may coincide exactly with a moral law. But it is a law of the state in so far as it would be upheld in the courts; it is a moral law in so far as it is one which you, as legislator for a Kingdom of Ends, have yourself affirmed.

Moral laws must be made by each person for himself. This doctrine, which is, I take it, the same as Kant's

doctrine of the legislative will, may seem strange and unsatisfactory; but I think it does cover the facts. You legislate for all rational beings in the sense that you do try, in whatever circumstances you may be placed, to make a relevant rule for the occasion, defining to yourself the rights and duties of the persons involved, including yourself; and then you attempt to exercise what according to your law is your right, or perform what according to your law is your duty. What is your moral duty may not be your legal duty, but that is because there is no statute or customary law to meet the occasion, or because the two laws, legal and moral, conflict. In precisely the same way as legal and moral laws may conflict, so the law which you make 'for all rational beings' may conflict with the law made by another person. That, however, does not affect the point that if you have done what *your* law ordains, you have done your moral duty.

One consequence which seems to me to follow from this view is that moral laws, and, consequently, *what* is my duty must change from time to time, just as other laws and duties change. An acute moral situation always calls for fresh legislation, or for a law previously laid down to be re-affirmed.

And another consequence would seem to be that the difference between moral and immoral action consists in the fact that in immoral action (*a*) We have been determined *solely* by the 'conception of good,' and have not taken account of persons *as* persons, and consequently have neglected to legislate; or, (*b*) We have not performed the act which our law indicated. Let me give one or two examples to bring out this point.

The first example will be concerned with what I should consider the distinction between moral and immoral reform. A person may think that it is an extremely bad thing for the sale and consumption of intoxicating drink to be permitted; and an extremely good thing if we could all discuss intelligently Einstein's theory of Relativity, and questions in art and literature. Now in attempting to get rid of what he considers bad and to achieve what he considers good, he would have to affect us in certain ways, and, if he had the power, force us to do a great number of things we do not want to do. And the way in which he behaves is moral or immoral according to whether he takes account of us as persons—*i.e.*, as having purposes, inclinations and desires which may not be the same as his. If he does take account of this, and if he is convinced that we are being allowed rights which we ought not to be allowed, and are not subject

to duties which we ought to be subject to; and if, taking account of all relevant considerations, he can *legislate* that drinking is not a right and is definitely destructive of certain rights guaranteed under his law, and that the understanding of Einstein's theory and the reading of good literature are duties in the sense that they are necessary to support the system of rights which he recognises, then he is *morally* justified (even if his actions are flatly illegal) in using all the means at his disposal for stopping our drinking and setting us to read mathematics and Shakespeare, so long as the means he uses do not interfere with rights he recognises. On the other hand, if he has not considered us as persons, and if he tries to attain his ends simply because *he* thinks it good that they should be attained, then his actions are not moral; they are in principle immoral. He is an irritating busybody, and he ought to be severely suppressed.

The other example I shall take is one which has been made famous by Kant. Suppose there is a friend in your house, and some men come with the intention of killing him. You meet them at the door; and, when they ask whether he is in, are you morally justified (believing he *is* in) in saying he is not? I am not concerned with the answer given by Kant, but I think my answer would be this: If you consider simply that you want to save the man's life, and if you treat these intentional murderers, not as persons, but simply as things which are liable to hurt him and which you can render harmless by a certain word or action, then you *are* being immoral. If, on the other hand, you do consider them as persons, with desires, impulses and purposes of their own, and if you can yet legislate that their getting into your house to where your friend is would entail the violation of a right —a right which is more important than *any* right which could be violated in your keeping them out by *any* means— then you are morally justified in telling them the most outrageous lie you can think of, or, if need be, throwing them down the stairs and breaking their necks. The whole question is whether in doing either of these things you would or would not act without 'legislating,' or whether you would or would not violate a right which was for you a fundamental one. If, according to Kant, the right to the truth is absolutely unqualified, then there is not the slightest thing wrong with the answer he gave to this question. Only his answer was not the philosopher's answer—there can be no such thing as a 'philosophical' answer to such a problem —it was his answer as a practically moral man. While Kant would have refused to tell the lie, Green would have had no

compunction, I think, about that, if it happened to be the only way out of the difficulty; but he would have drawn the line at throwing the murderers downstairs and breaking their necks.

The whole point is this: *What* is your moral duty can be determined only by a definite particular law which you lay down relevantly to the circumstances, and what historical circumstances actually exist will help to indicate the kind of law demanded. But it must *be* a law, and not simply a statement of means to a given end. By saying that it must be a law, I mean that it must be one which sets out a certain right or certain rights, and involves a certain duty; it must set forth a certain rule to be acted upon by, and to hold between, persons. The fact that it is made by you does not mean that it is subsidiary to an end you wish to attain; it is a rule which has been made in order to define what end or ends you can or ought to strive for.

Let me attempt to anticipate one objection which may be raised against this manner of distinguishing between moral and immoral action. My whole argument is, of course, that the distinction between morality and immorality is impossible and unintelligible, on the theories of Moore, Green, Bradley and Bosanquet. It is only if you adopt a view which holds that "duty is that which is defined by law," and that "moral duty is that which is legalised by the legislating will of the agent himself," that you can find any valid ground for moral distinctions. And now I come to the objection.

Our 'infallible' test of moral and immoral conduct, it may be said, is no test at all. I have said that immorality involves either a neglect to legislate, or a neglect to obey my law once I have made it. The second part of this test involves no difficulty, it will be said, because if it is true that what is your duty is defined by a law, then clearly the distinction between moral and immoral action is a distinction between acts which do and acts which do not conform to the law. But it is the first part of the test which presents the difficulty—the "legislating or neglecting to legislate". Surely this gives no test. May you not legislate in your own selfish interests? May you not say, "I want so-and-so; therefore I shall define that as one of my rights, and act, and attempt to force others to act, accordingly"? Once you get away from laws made by another will, have you not opened up the way for selfish anarchy disguised as moral rectitude?

The answer to this objection is to be found by insisting upon the extremely limited aim of this paper. What the above objection reduces itself to is this: "You haven't proved

that will *can legislate*." The objection reduces itself to this, because my argument all along has been that a legislative will must be a disinterested will. By a legislative will I meant a will which can legislate for a Kingdom of Ends-in-themselves,—lay down a rule of behaviour for a group of persons in such a way that it is not formulating the rule simply in the interests of one of those persons. It is a will which can be, in Kant's terms a 'holy will,' or, in Aristotle's description of law, "reason without any taint of desire". It is a capacity to 'make every person count as one, and none as more than one'. So the objection can be stated most clearly in this form: "By legislation you mean unselfish legislation; unselfishness is, so to speak, a part of your definition of the legislative will. But you haven't proved that a will can legislate; you haven't disproved the view of Green and Bosanquet, that the will is always directed to an end, or to something conceived to be good. You have been talking all the time about the capacity of the individual to determine himself to act *either* by the notion of good *or* by the notion of law; but you haven't *proved* that this second alternative is *possible*."

To this objection I must reply by admitting the charge. I have not proved that there is such a thing as a legislative will; but it must be remembered that I never set out to prove any such thing. My argument has been that if the notion of duty has any significance, if there is any sense in your distinguishing between moral and immoral action, then you are *implying* that there is such a thing as a legislative will. You can deny the existence of morality, of course; but if you do you must give up talking about your duty or the duty of any one else. If there is no 'Duty' the argument is quite confessedly in the air; if there is such a thing, then this argument, if it is not illogical, has shown what the notion of duty implies.

V.—DISCUSSIONS.

THE THEORY OF TYPES.[1]

It would seem from the interpretation that Whitehead and Russell put on the theory of types, that it is impossible or meaningless to state propositions which have an unrestricted possible range of values, or which, in any sense, are arguments to themselves. Thus on the acceptance of the principle that statements about all propositions are meaningless,[2] it would be illegitimate to say, "all propositions are representable by symbols," "all propositions involve judgment," "all propositions are elementary or not elementary," and if no statement could be made about all the members of a set,[3] it would be impossible to say, "all meanings are limited by a context," "all ideas are psychologically conditioned," "all significant assertions have grammatical structures," etc., all of which are intended to apply to themselves as well. The theory seems also to make ineffective a familiar form of refutation. General propositions are frequently denied because their enunciation or acknowledgment depends on the tacit supposition of the truth of a contradictory or contrary proposition. Such refutations assume that the general proposition should be capable of being an argument of the same type and to the same function as its own arguments, so that according to Whitehead and Russell, they fallaciously refute "by an argument which involves a vicious circle fallacy".[4]

That these limitations on the scope of assertions or on the validity of refutations are rarely heeded is apparent even from a cursory examination of philosophical writings since 1910. Thus Russell, apropos to Bergson's attempt to state a formula for the comic says,[5] "it would seem to be impossible to find any such formula as M. Bergson seeks. Every formula treats what is living as if it were mechanical, and is therefore by his own rules a fitting object of laughter." The characterisation of all formulæ, even though it refers to a totality, seems to Mr. Russell to be of the same type as the formulæ characterised.

[1] Chap. II., *Principia Mathematica.*
[2] P. 37, *ibid.* (second edition). [3] P. 37, *ibid.* [4] P. 38, *ibid.*
[5] "Prof. Guide to Laughter," *Cambridge Review*, Vol. 32, 1912, and Jourdain's *Philosophy of Mr. B*tr*nd R*ss*ll*, pp. 86-7.

If the theory were without any embarrassments of its own, and were indispensable for the resolution of the so-called paradoxes[1] (which no one seems to believe), there would be nothing to do but to acknowledge the impossibility of cosmic formulations, as well as the inadequacy of philosophic criticisms, and to pass charitably over such remarks as Russell's as mere accidents in a busy life. However, the statement of the theory itself involves the following difficulties in connection with (1) its scope, (2) its applicability to propositions made about it, and (3) its description.

1. It is either about all propositions or it is not.

A. If it were about all propositions it would violate the theory of types and be meaningless or self-contradictory.

B. If it were not about all propositions, it would not be universally applicable. To state it, its limitations of application would have to be specified. One cannot say that there is a different theory of types for each order of the hierarchy, for the proposition about the hierarchies introduces the difficulty over again.

2. Propositions about the theory of types (such as the present ones, as well as those in the *Principia*) are subject to the theory of types, or they are not.

A. If they were, the theory would include within its own scope propositions of a higher order, and thus be an argument to what is an argument to it.[2]

B. If they were not, there would be an unlimited number of propositions, not subject to the theory, that could be made directly or indirectly about it. Among these propositions there might be some which refer to a totality and involve functions which have arguments presupposing the function.

3. The statement of the theory of types is either a proposition or a propositional function, neither or both.

A. If it were a proposition, it would be either elementary, first order, general, etc., have a definite place in a hierarchy and refer only to those propositions which are of a lower order. If it were held to be a proposition of the last order, then the number of orders would have a last term, and there could not be meaningful propositions made about the theory. The *Principia* should not be able to say, on that basis, just what the purpose, character and application of the theory is.

B. Similarly, if it were a propositional function, it would have a definite place in a hierarchy, being derived from a proposition by generalisation. It could not refer to all propositions or propositional functions, but only to those of a lower order.

[1] Paradoxes, though contrary to common opinion, may be and frequently are true. Paranoumena, violating principles of logic or reason, if they are not meaningless, are false, and it is only they which are capable of logical analysis and resolution. What the *Principia* attempts to do is to solve apparent paranoumena by a paradox.

[2] P. 39, *Principia Mathematica*.

C. If it were neither it could not be true or false, nor refer to anything that was true or false. It could not apply to propositions, for only propositions or propositional functions, in a logic, refer to propositions.

D. If both at once, it would be necessarily self-reflexive.

a. If as function it had itself as value, it would refer to itself. But the theory of types denies that a function can have itself as value.

b. If as function it had something else as value, it would conform to the theory, which insists that functions have something else as values. The theory then applies to itself and is self-reflexive, and thus does not apply to itself. As, by hypothesis, it is a value of some other function, there must be propositions of a higher order and wider range than the theory of types.

It is no wonder that the perpetrators of the theory have not been altogether happy about it! What is sound in it—and there is much that is—is best discovered by forgetting their statements altogether, and by endeavouring to analyse the problems it was designed to answer, without recourse to their machinery. The result will be an acknowledgment of a theory of types having a limited application, and a formulation of a principle which will permit certain kinds of unrestricted general propositions.

To do this we shall deal in detail with two apparent paranoumena dealt with in the *Principia*, where the difficulty is largely *methodological*. We shall then treat of Weyl's "heterological-autological" problem, where the difficulty is due to a confusion in *meanings*. Those problems which cannot be dealt with under either heading will be those which need a theory of types for their resolution.

1. *Epimenides.* The proposition "All Cretans are liars" must be false if it applies to Epimenides as well, for it cannot be true, and only as false has it meaning. If it were true, it would involve its own falsity. When taken as false, no contradiction, or even paradox, is involved, for the truth would then be "*some* Cretans tell the truth". The truth could not be "all Cretans tell the truth" for Epimenides must be a liar for that to be true and by that token it must be false. Epimenides himself would be one of the lying Cretans, and one of the lies that the Cretans were wont to make would be "all Cretans are liars". Thus if Epimenides meant to include all his own remarks within the scope of the assertion, he would contradict himself or state a falsehood. If it be denied that a contradictory assertion can have meaning, he must be saying something false if he is saying anything significant. Had he meant to refer to all other Cretans there is, of course, no difficulty, for he then invokes a kind of theory of types by which he makes a remark not intended to apply to himself. All difficulty disappears when it is recognised that the formal implication, "all Cretanic statements are lies" can as a particular statement be taken as one of the values of the terms of this implication. Letting $Ep\,!\,p$ represent "Epimenides once

asserted p"; ϕ represent "Cretanic" and p represent a statement or proposition, then for "All Cretanic statements are false (or lies)," we have:

$$1.\ \phi p . \supset_p . \backsim p.$$

And as Epimenides is a Cretan, for any assertion he makes we have:

$$2.\ Ep\,!\,p . \supset_p . \phi p.$$

As $\#1$ is an argument to the above—it being Epimenides' present remark—we get:

$$3.\ Ep\,!\,\{\phi p . \supset_p . \backsim p\} . \supset . \phi\{\phi p . \supset_p . \backsim p\}$$

$\#1$, as a Cretanic statement, is an argument to $\#1$ as a formal implication or principle about Cretanic statements, so that:

$$3A.\ \phi\{\phi p . \supset_p \backsim p\} . \supset . \backsim\{\phi p . \supset_p . \backsim p\}$$

$\#3$ and $\#3A$ by the syllogism yield:

$$3B.\ Ep\,!\,\{\phi p . \supset_p . \backsim p\} . \supset . \backsim\{\phi p . \supset_p . \backsim p\}$$

so that in this instance Epimenides lied.

It is important to note that $\#1$ states a formal implication, and that $\#3$, $\#3A$ and $\#3B$ employ $\#1$ as a particular assertion or specific argument to their functions. $\#3A$ is an instance of the implication expressed by $\#1$, and is this instance because of the particular argument it does have. It states the fact that "'all Cretanic statements are false' is a Cretanic Statement," implies that "'all Cretanic statements are false' is false". Substitution of another argument would give a different instance; though of course of the same implication. The implication contained in its argument does not have instances. "'Some Cretanic statements are false' is a Cretanic statement" or "'This Cretanic statement is false' is a Cretanic statement" are not instances of "'All Cretanic statements are false' is a Cretanic statement," but of "P is a Cretanic statement". These three propositions have different subjects; they are different values of the same propositional function. That these subjects have relations to one another is of no moment. "My wife loves me" and "my mother-in-law is old (or loves me)" are two distinct and logically independent propositions, even though there is a relationship between the two subjects.

It is because any considered general proposition is at once an individual fact, and a formal implication or principle, with many possible arguments, that it is capable of being taken as an argument to itself. All propositions about words, logic, truth, meaning, ideas, etc., take arguments which fall in these same categories, and in so far as such a general proposition is stated in words, determined by logic, etc., it should, as such a fact, be an argument to itself as a formal implication. The principle must be false if this cannot be done, for it is sufficient, in order to overthrow a proposition of this kind, to produce one argument for which it does not hold. One may limit the principle by asserting that it holds for "all but . . .",

in which case it is a *restricted* general proposition. Nominalism, association of ideas, scepticism, the theory of universal tautology, the denial of logic are defended in propositions which cannot take themselves as arguments, and which as facts are arguments to contradictory principles. Their contradictory principles therefore hold sometimes at least, so that these doctrines must be false if they are put forward without restriction, and cannot be universally true, if, in Bradley's words, they "appear".

2. "I am lying"—if it be taken in isolation from all fact—is a meaningless statement. There must be some objective truth that is distorted, and unless it is provided the assertion has no significance. This proposition means either, "I am lying about X"; "I always lie," or "I have always lied". The first can be either true or false without giving rise to any problem, except where "all my assertions" is made an argument to X, in which case it is equivalent to either the second or third formulation. "I always lie" involves the same situation as with Epimenides, and the proposition is false. The supposition of its truth would involve a contradiction; the supposition of its falsity means simply that I sometimes lie and sometimes tell the truth. If what is meant is that "I have always lied" that does not involve a contradiction, for what is intended is a restricted proposition, applying to *all but* the present one. It can be true because it does not apply to all propositions; if it were false, then sometimes I lied and sometimes I did not. In short, there is nothing like a self-reflective universal liar, which is an interesting moral conclusion to derive from a logical analysis. Similarly, there cannot be a thorough scepticism held by the sceptic to be valid.

Prof. Whitehead (to whom I am also indebted for the notation) has pointed out to me that wherever a conjunction of propositions results in a *reductio ad absurdum*, there is no way of determining on logical grounds alone which of the antecedents fails, or is false (though one at least must be). Thus in the case of Epimenides we have:

$$4.\ \underset{(A)}{\{\phi p \,.\supset_p.\backsim p\}}\,.\,\underset{(B)}{\{Ep\,!\,p\,.\supset_p.\,\phi p\}}$$
$$.\,Ep\,!\,\underset{(C)}{\{\phi p\,.\supset_p.\backsim p\}}\,.\supset.\backsim\underset{(D)}{\{\phi p\,.\supset_p.\backsim p\}}$$

It is because B and C are in that case assumed to hold, that we can say that A must fail. If the truth of all these antecedents were undetermined, we should have merely the general rule: a *reductio ad absurdum* has as a necessary condition the conjunction of one or more false propositions. Transposition—

$$4'.\ \underset{(D)}{\{\phi p\,.\supset_p.\backsim p\}}\,.\supset.\backsim\underset{(A)}{\{\phi p\,.\supset_p.\backsim p\}}$$
$$.\vee.\backsim\underset{(B)}{\{Ep\,!\,p\,.\supset_p.\,\phi p\}}\,.\vee.\backsim\,Ep\,!\,\underset{(C)}{\{\phi p\,.\supset_p.\backsim p\}}$$

makes it apparent that to deny the conclusion of a *reductio ad absurdum* is to imply that at least one of the antecedents is false.

In connection with the *reductio ad absurdum* involved in the assertions, "I always lie" and "I always doubt," #4B reduces to the tautologies: "If I assert p, p is my assertion," and "If I doubt, the doubt is mine". In these cases, the only alternatives left are the denial of the fact of the assertion (#4C), or the truth of the principle itself (#4A).

3. Weyl's heterological-autological contradiction[1] is the result of a material fallacy of amphiboly in connection with the employment of adjectives. The simplest form of such a fallacy is due to a failure to distinguish between an adjective as substantive and an adjective as attribute. Thus if we treat both the subject and attribute in "large is small" and "small is large" as attributes united by a copula expressing identity (instead of reading it as "large is a small word," "small is a large word") we could say "whatever is small is large, and whatever is large is small". No one, I believe, since the Megarics, has been troubled by this particular confusion.

The present problem is the result of a confusion, not between substantive and adjective, but between an adjective which expresses a property, and an adjective which expresses a relation between this property and the substantive. All words can be described in terms of a property—they are long, short, beautiful, melodious, etc., words. They can be classified in accordance with these properties, giving us the class of long words, short words, etc. They can also be classified as either "autological" or "heterological," depending on whether or not the same word is at once substantive and property-adjective; the terms "autological" and "heterological" expressing relationships between the substantive and adjective.

The autological class is made up of words, each of which expresses a property which it possesses; though all of them have unique properties. If "short" be short, and if "melodious" be melodious, they would both be members of the autological class; though in addition, "short" would be a member of the class of short words, and "melodious" would be a member of the class of melodious words.

The heterological class is made up of words, each of which expresses a property which it does not possess. If "long" be short, and if "fat" be thin, they would both be members of the heterological class; although here also "long" would be a member of the class of short words, and "fat" would be a member of the class of thin words. Though when classified according to the relationship of the adjective to the substantive, "short" would be an autological word and "long" a heterological word, they would both be members of that class which was defined in terms of the properties of words—being in this case, members of the class of short words.

[1] Briefly stated it is: all words which express a property they possess are autological; all words which express a property they do not possess are heterological. If 'heterological' is heterological it expresses a property it possesses and is thus autological; if it is autological, it expresses a property it does not possess and is therefore heterological. *Das Kontinuum*, p. 2.

Now if heterologicality were a property that a word could have, and if the word "heterological" had that property, it would be a member of the autological class, for it would then possess a property that it expressed. But it would also be a member of a class of words which had the *property* of heterologicality. This class is determined by taking the properties of words, and if it be called "heterological," must be distinguished from that class which was determined not by properties, but by the relationship between properties and substantives.

If there were a property like autologicality and if "heterological" had that property,[1] it would be a member of the heterological class, for it would express a property which it did not possess. But it would also be a member of the class of words which possessed autologicality and could be thus classified.

Thus if "heterological" had the property of autologicality, it would be in the heterological class owing to the *relation* which held between the property and substantive (or between a property it possessed and the property it expressed); but it would be in the class of autological words, owing to a *property* it possessed. If it had the property of heterologicality, it would be in the autological class on the basis of the *relation*, and in the class of heterological words on the basis of *property* classification. There is no difficulty in considering something as a member of two distinct classes, owing to the employment of different methods of classification. There is no contradiction in saying: "'heterological' expresses the property heterologicality, possesses the property autologicality, and the relation between these properties is heterological, in that it expresses and possesses the property heterologicality and the relation between them is autological." Similarly, Richard's contradiction, Berry's contradiction, and that involving the least indefinable ordinal, are resolvable by recognising that "nameable" and "indefinable" are used in two sharply distinguishable senses. They do not require a hierarchy, but a discrimination in the methods of description.

When a distinction is made between a class and its membership (the distinction between a number of numbers and a number is a particular case of this), and between a relation of objects and a relation of relations, the requirements for the solution of the other mathematical problems are provided. A class is other than its members, and a relation, like all universals, transcends any given instance or totality of instances. As they have characters of their own, universals can be described in terms of other universals, which in turn transcend them. Arguments are of a different "type" than functions, just so far as they have different logical characteristics,

[1] 'Heterological,' in fact, has the properties of being long, polysyllabic, etc., and it is questionable whether there are properties like autologicality and heterologicality possessed by words. If there be no such properties, "heterological" is a member of the class of long words, polysyllabic words, etc. In addition it would be one of the terms related by the heterological relation, which fact would not make it have the *property* of heterologicality.

i.e. are different kinds of logical facts. The class which is an argument to a function about classes has, as argument, a different logical import than the function, and its arguments have a different import from it. This is true of all functions, restricted and unrestricted alike, for it means simply that they are discriminable from their arguments. They can, despite this difference, have characteristics in common with their arguments, and are to that extent unrestricted. Thus in the case of "the class of those classes which are identical with themselves," the class of classes can be taken simply as a class, without logical embarrassment. Yet a class of classes differs from a class, and must therefore be capable of a different characterisation, and thus also be an argument to a function of a different type. With some classes, it may not be possible to consider them as arguments to their own functions, without uncovering a contradiction. In such cases (*e.g.* the class of those classes which are not members of themselves, and the relations which are connected by their contradictories), it is the difference between the function and the argument that is of moment. That *some* cannot take themselves as arguments does not indicate that all classes or functions are restricted in scope, but simply that classes and functions are *non-restricted*. Some classes and functions are restricted and some are not. To say that all are because some are is an obvious fallacy.

Whenever, as individual, a general proposition is in the class of those objects of which it treats, but cannot be considered as an argument to itself, it is either false or restricted in scope. If the second, its range of arguments must be specified. Accordingly, we can state as a *necessary* condition for the truth of a general proposition, whose scope is unspecified, that when it has a character, which is one of the characters about which it speaks, it *must* be an argument to itself. Thus if Bergson adequately described the comic, his formula should be an object of laughter, and if the theory of types is universal in application, it should be capable of being subject to itself. Conformity to this condition indicates that the unrestricted proposition is *possibly* true; not that it is necessarily true. To demonstrate that such a proposition was necessarily true, it would be essential to show that the supposition of its falsity assumes its truth. That there is danger in applying this rule can be seen from the consideration of some such proposition as: "Everything is made up of language elements". Its denial will be made up of language elements, and would seem to demonstrate that the proposition was necessarily true. Supposition of the falsity of a proposition, however, means verbal denial only in so far as the proposition applies to the realm of language. If it applies to everything, supposition of its falsity involves the positing of the objects of assertions; not the assertions. A necessary unrestricted proposition about everything can be supported only by a demonstration that the supposition of an argument for which it does not hold is self-contradictory. If the proposition has to do with grammar, meaning, logic, judgment, etc.,

the conditions for a necessarily true and unrestricted proposition would be: 1. the assertion of it is an argument to it; 2. any possible denial is an argument to it. That "any possible denial" rather than "any given denial" is required, is apparent from the consideration of the following propositions: "All sentences are made up of eight words," "No sentence is made up of eight words". Each of these contains eight words. It is because of the fact that we can formulate propositions such as, "It is false that every proposition must be made up of eight words," that the condition is seen not to have been met.

An unrestricted proposition applies to every member of the category, and has some aspect of itself as value. It is in some sense then a determinate in the category which it determines. If the proposition refers to some other category than the one to which it as fact, or some aspect of it as fact, belongs, it is restricted. Thus "all men are mortal" is neither man nor mortal, and as condition does not determine itself as fact. Any proposition referring to that statement would be of a different type, and would deal with its truth, falsity, constituents, historical place, logical structure, etc. Though the unrestricted propositions have no limitations, the category to which they refer may have. Epimenides' remark, for example, referred only to Cretans. As his assertion was a determinate in the category, and as his statement of the supposed conditions imposed on the members of that category was not a possible argument to the general proposition, the general proposition was seen to be false or restricted. Had he said, "All Cretans tell the truth," he would have stated an unrestricted proposition which was possibly true. It could not be said to be necessarily true unless Cretan and lie, against the evidence of history, were actually contradictories.

Accordingly, we shall say: *All true unrestricted propositions are arguments to themselves; or by transposition, those propositions which are not arguments to themselves are either restricted or false.* As this proposition can take itself as argument it is possibly true. Unless no proposition is possible which does not conform to it, it cannot be said to be necessarily true. I have not been able to demonstrate this and therefore accept it as a definition or "methodological principle of validation". The theory of types, in its most general form, may be stated as: *A proposition or function of order n, which cannot be an argument to itself, is, as fact, an argument of a proposition or function of order* $n + 1$.

In accordance with the scheme of the criticism of the theory of types, we can describe our principle as (1) applying to all propositions, including (2) those which refer to it. (3) It is a formal implication with itself as one of its arguments. The theory of types, on the other hand, (1) does not apply to all propositions, but only to those which are restricted, (2) *may* apply to those propositions which refer to it, and (3) is a formal implication which cannot take itself as argument.

The theory of types cannot be an unrestricted proposition about

all restricted propositions. As an unrestricted proposition it must take itself as argument; but its arguments are only those propositions which are *not* arguments to themselves. It cannot therefore be unrestricted without being restricted. Nor can it be a restricted proposition about all restricted propositions for it would then be one of the restricted propositions, and would have to take itself as argument—in which case it would be unrestricted. Hence it cannot be restricted without being unrestricted. Three possible solutions may be advanced. The first is that the theory of types is restricted and does not apply to *all* restricted propositions, but only to *some* of them. It is not an argument to itself but to some other proposition about restricted propositions. This in turn will have to be restricted and refer only to some propositions, and so on, giving us theories of types of various orders. The proposition made about the totality of these orders would be of a still higher order and would in turn presuppose a higher order *ad infinitum*. The theory of types thus depends on theories of types of theories of types without end. This seems probable on the ground that the theory is based on the recognition that no proposition can be made about all restricted propositions, so that it must by that very fact admit that it cannot apply to all of them. Instead, therefore, of the theory of types applying to all propositions, and determining them in various orders, it does not even apply to all of a given class of them. This interpretation would not affect unrestricted propositions, and would merely show that the determination of restricted propositions is subject to determinations without end.

The second possibility is suggested by the consideration of a proposition such as: "all truths are but partially true". If that were absolutely true, it would contradict itself, and if it were not, could only apply to some truths. Considered as referring to the necessary limitations which any finite statement must have, it would take itself as argument in so far as it was finite, thus indicating that it was absolutely true about finite propositions, and yet not absolutely true as regards all truths. By pointing out the limitations of a finite statement it indicates that there is an absolute truth in terms of which it is relatively true. On this interpretation, any condition which imposes universal limitations is unlimited in terms of what it limits, but limited in turn by some other condition. One might hold, therefore, that the theory would be unrestricted as regards restricted propositions, and restricted as regards all propositions, and would point to a higher principle which limits it.

The third possibility is to allow for "intensive" propositions which are neither restricted nor unrestricted, being incapable of any arguments. The theory of types could be viewed as such an intensive proposition, and what we have called its arguments, would merely "conform" to it. This interpretation means the downfall of a completely extensional logic, and a determination of an extensional logic as subordinate to an intensional one.

There are difficulties in each of these interpretations. We shall

not now choose among them. In any of these cases, however, a restricted proposition which refers to some other than the restricted aspect of the theory would be subject to the theory and the principle we have laid down about unrestricted propositions could still hold. Those restricted propositions which refer to the restricted character of the theory would not be an argument to it on the first, would be an argument to it on the second, and would neither be nor not be an argument to it on the third solution.

To briefly summarise: The theory of types must be limited in application. Not all the problems it was designed to answer require it; another principle of greater logical import is desirable; while for the resolution of the problems in which it is itself involved, very drastic remedies are necessary. No matter how the theory fares, the possibility of the methodological principle and the possibility of other solutions for the so-called paradoxes, indicate that it is at least not as significant an instrument as it was originally thought to be.

PAUL WEISS.

COSMIC EVOLUTION.[1]

In the October, 1927, number of MIND, Mr. A. K. Stout gave a review of my book, *Cosmic Evolution.* His summing up of the main theory of the book was done with admirable clearness and leaves little to be desired. But he offers certain criticisms on which I wish to comment. He said I 'appear simply to take it for granted that there is no alternative'. I have, as a matter of fact, taken account of two types of alternatives, that of strict emergence and that of strict preformation. There is perhaps no theory of evolution which holds to strict universal preformation. The theory of Aristotle, followed recently by Driesch, is an embryological theory and does not pretend to explain how forms arise. On the basis of the evidence, it is unreasonable to suppose that all the structural tendencies of evolution are latent in the simplest beginnings. As against strict emergence, *i.e.*, emergence without guidance, I have shown that modern science makes it necessary to assume cosmic control. The uniformity of the final elements of matter, *viz.*, the electrons, and the uniformity of the structure of matter everywhere is impossible on the calculus of chance. I think I have disposed of the theories of strict emergence and strict preformation.

As an alternative I have proposed a theory of cosmic interaction. Some sort of theory of cosmic interaction is required for gravitation. The gravitational field is determined by the adjustment of the masses of matter to one another over the distances of cosmic space. This is true on any theory of gravitation. Here at any rate space is bridged. Moreover, the postulate that the universe is an eternally going concern, and does not require a miraculous winding up, makes it necessary to assume that there is a give and take relation between the parts of the cosmos, such that the available energy remains constant. This implies a curvature of the cosmic field, so that energy is not just dissipated into empty space. It also implies that energy is communicated in constant quanta over any distance, and is not dissipated on the way. Both these implications are justified by present science. I am also justified by present science in assuming that the parts of the cosmos exist in all stages of development. This means in the language of astronomy that the stars exist in various stages of temperature, and this means in various stages of integration. Whatever may be the ultimate stuff of the universe, the only difference, apart from mass, between our earth and the sun and between the sun and other stars is a difference of temperature.

[1] Macmillan, 1925.

The mass does not differ greatly among stars, but varies about a mean. We may assume that the evolution of a star into a system, such as the sun, follows a uniform law, though there is no satisfactory theory at present. The stellar situation, both as regards simultaneous age groups and as regards the comparative uniformity of stellar mass, indicates cosmic control.

An analogy is suggested between the overlapping stellar histories and the overlapping generations in biological and sociological heredity. New biological histories of a certain type are made possible by the pre-existence of the type in actuality, as Aristotle would say. The continuity of civilisation is made possible by the overlapping of cultural generations. In an analogous manner, the overlapping stellar generations may be supposed to determine the type of evolution in a local history, such as our earth. Lucretius compares the interstimulation of civilisations to runners handing on the torch of light. I extend the analogy to the interstimulation amongst cosmic histories of various stages. The analogy would be relevant in any system of metaphysics which is descriptive of the actual state of affairs. It would hold for Aristotle as well as Lucretius.

Any organisation of energy sends out quanta of energy which are characteristic of the organisation. That is why we can identify the various kinds of matter in the stars through their spectra. That is why we can identify a friend over the telephone. If all the levels of organisation co-exist and interact in the cosmos, then a guiding field for local evolution, through all the various levels, is provided, though the particular history depends upon the duration and organisation of the responding parts as well as upon the stimulus from outside. In this way the impulse from the more advanced organisations of energy, such as life and mind, can guide the immature history in the preparatory development towards life and mind. Quanta of spiritual influences, as well as material influences, are communicated over space and remain intact over space, as we know in social communication. Spiritual influences are not lost any more than the material. Mr. Stout says I fail "satisfactorily to dispose of the difficulty presented by the immensity of interstellar distances". I have tried to show that the quantum theory disposes of them. The distances are no larger for spiritual guidance than for gravitational guidance. Pre-adaptation in the lower levels is thus reasonably accounted for and not merely assumed.

Have I proved my theory? Mr. Stout says: "His primary doctrine of cosmic unity by no means follows from the scientific evidence as the only reasonable view". I do not claim that the theory is uniquely proved, *i.e.*, that no other theory of the facts is possible. The great Henri Poincaré proved long ago that where there is one solution of a set of phenomena, there are an infinite number of solutions. But they are not equally satisfactory. According to Prof. R. D. Carmichael, any theory to be acceptable must meet three general demands: "It must be in suitable agreement

with the facts of nature; it must have those æsthetic qualities which render it suitable to the human spirit; and it must furnish the most agreeable theory from the point of view of convenience," *i.e.*, it must be as simple as possible. A theory of the universe must, I think, also satisfy man's ethical and religious demands. The theory of cosmic interaction, under cosmic control, furnishes, I believe, the most plausible theory so far advanced. It has the great advantage that it can be incorporated into any system of metaphysics which is truly descriptive of the facts, though there will, of course, be a maximum and a minimum of over-beliefs in different acceptances. It certainly marks an epoch in philosophy when we demand that a metaphysical theory shall be proved by objective evidence. I do not believe, however, that a metaphysical system stands or falls with its astronomical framework. If so, Aristotle's *Metaphysics* would be worthless.

Mr. Stout charges me with not having defined the terms I have used. I do not think that the writer of a treatise should necessarily make a dictionary for his readers, unless, like Prof. Whitehead, he invents a new language. Some terms, we may assume, have a sufficiently definite meaning from the historical context in which we live. I do not think Einstein gives a formal definition of the term energy in his famous book on *Relativity*, though he uses the term frequently. It would take a book to define such a term. But it has a general meaning to scientific men. The discourse in which the term is used serves to define it. Plato never gave a dictionary definition of an Idea. I devoted a chapter to the concept of energy and energy systems in *A Realistic Universe* and I recurred to it in *Cosmic Evolution*.[1] I do not understand energy "as a quantity definable only by the way it is measured". We do not measure energy, we measure action. Poincaré pointed out that the general meaning of energy is constancy. Energy is one aspect or attribute of activity systems. It figures under determinate conditions as an empirical constant or empirical constants such as a gravitation constant, chemical constants, in our equations. Space and time are other variables involved. All these variables must be interpreted in terms of relativity. Energy is a class term and adjectival to an activity system. Energy as a singular substantive belongs in the realm of the occult with which metaphysics has been too closely identified.

I think I am responsible for the phrase "energy pattern".[2] I did not give a dictionary definition, but I gave examples of three types of energy patterns or determinate influences carried from part to part over a medium. Within the organism we are familiar with two kinds of patterns or determinate influences carried from one part to another, *viz.*, neural patterns and chemical patterns, sometimes spoken of as 'chemical messengers,' and I defined the re-

[1] See pp. 394 ff.

[2] Paper, "Cosmic Evolution," Proceedings of Aristotelian Society, 1920-1921, reprinted as Chapter I., *Cosmic Evolution.*

spective rôle of each. I also gave an account of spiritual patterns in social intercommunication. When we substitute energy for substance, in the sense of ultimate chunks of things, the category of organisation becomes fundamental. I define mind as a pattern or type of organisation of a higher level than the cerebral patterns of reflexes and neural habits. We know mind patterns through social intercommunication and through the products of mind. Their nature is that of intended meaning, as contrasted with mechanical types of organisation. The mental pattern of a human individual is in this existence bound up with a body which it controls to a degree, *viz.*, so as to make its behaviour meaningful. We know mental patterns a great deal better than we know bodily mechanisms. Men understood one another and even founded the sciences of mind—psychology, logic, ethics, and æsthetics—before they knew they had a nervous system. What I have described is precisely the meaning of mind in human social experience.

Mr. Stout missed utterly the significance of my discussion of consciousness. For twenty years I have tried to show that we need to distinguish between consciousness and mind.[1] Mind has reference to a certain type of structure, *viz.*, meaning-structure, and may or may not be conscious. We are probably never conscious of our whole mind and we may not be conscious of it at all, in the sense of being aware of our mental structure, when we are asleep and do not function as meaningful individuals. If we once distinguish between awareness and mind, there is no reason for our limiting awareness to action having meaning. Prof. Dewey has now lent his distinguished support to the distinction between mind and consciousness.

Mr. Stout makes serious objection to my use, now and then, of imaginative pictures and imaginative style. In creative writing, whether in philosophy or science, it seems natural to create pictures and to use the analogy of the more familiar to picture the relatively unfamiliar. Darwin's conception of the survival of the fittest, Einstein's conception of the curvature of space, the planetary conception of the atom—not to mention other instances—started as imaginative pictures, based upon analogy. If one has the spirit of natural piety (a phrase which should be credited to Wordsworth, rather than S. Alexander), it is natural to become poetic now and then. How painful it must be for Mr. Stout to read Greek philosophy. Even Aristotle's lecture notes are eloquent in places, and in the tenth chapter of the twelfth book of the *Metaphysics*, where Aristotle tries to express the relation of 'the good' to the universe, he uses two metaphors or analogies in one paragraph, that of the army and that of the household. Of course it is different when one is dealing with "analysis" in the sense of *post mortem* examination. Mr. Stout says: "His style is the antithesis of, say, Prof. Broad's". Let this stand as a sample of the new exact style.

[1] See *A Realistic Universe*, Part II., and *Cosmic Evolution*, pp. 386 ff.

J. E. BOODIN.

THE INFINITE REGRESS OF PROOF.

OWING to the hush-hush policy of its practitioners (worthy of a pseudo-science!) the fundamental difficulties of Logic so rarely receive ventilation that I cannot forbear to express my approval of Mr. Cator's enterprise in attacking the 'Euclidean' (or rather Platonic) theory of knowledge in No. 146. I should like to endorse also his protest against the futile attempt to cut short the infinite regress which seems to inhere in the form of syllogistic proof by alleging self-evident 'intuitions' (of which no list can be published!) when the resources of reasoning are exhausted. But I am a little doubtful whether my help will be welcome and will not be met by a *non tali auxilio*, because I do not feel quite sure what it is that Mr. Cator is really trying to prove. Is it that in all real knowing the terms used develop in meaning as knowledge grows? Or is it that "the very form of judgment is an inadequate vehicle of what would finally satisfy the intelligence"? I very much hope that he means the former, not only because then I can cordially agree with him, but also because then the second question does not arise; I will venture therefore to adopt the former interpretation of Mr. Cator's problem.

On this interpretation Mr. Cator is really asking whether there is any escape from the infinite regress that lurks in the form of the syllogism. Syllogistic proof, as Aristotle saw from the beginning, presupposes the truth of its premisses. If these are questioned, they must be proved. But to prove them will require *four* true premisses. If these are questioned, *eight* more true premisses will be needed to save the situation. The theory of proof, therefore, rapidly becomes a mockery when it encounters a pertinacious questioner like Lewis Carroll (*cf.* MIND, N.S., No. 14, 'What the Tortoise said to Achilles'); for syllogistic proof appears to be a procedure in which the more you try to prove the more you have to prove, and the further you get from proof.

To meet this difficulty Aristotle adopted the old Platonic expedient of a *self-proving* principle to which deductions might safely be attached; only instead of postulating only *one* such principle, the Idea of Good,—which seemed to involve the technical absurdity of proving from one premiss only—he allowed an indefinite number. But if this artifice is rejected, for the reasons given by Mr. Cator and by myself (*cf. Formal Logic*, ch. xviii., § 3), how can the regress to infinity be avoided?

As Mr. Cator sees, not by an appeal to generalisation from facts (J. S. Mill and the old empiricism). For experience alone will only generate (psychological) *expectations*, but will not prove that nature will fulfil them. It yields no *valid* form of proof. So Mill is as impotent as Aristotle.

Still Mr. Cator might have noticed that this argument is double-

edged. It can be taken as proving that inductive logic cannot be rendered 'valid'. But it is equally possible to infer that valid forms do not occur, and that there is no reasoning in them. For after all it can hardly be denied that we can, and do, form expectations. The fact that they are not logically valid does not prevent their occurrence as psychological facts. So the conclusion to be drawn might be that all logically valid processes repose ultimately on a substratum of invalid psychological processes.

This conclusion, doubtless, will not be welcome to logicians. So let us help them by pointing out that there exists a *third* way to be explored, which will lead us out of the difficulty. It is very simple and easy, and Mr. Cator might have found it in *Formal Logic*, ch. xviii., § 2. It also has the unanimous support of science. Although we can obtain the necessary premisses for working the syllogism neither by 'intuition' nor by 'induction' (generalisation from past experience), yet it is perfectly easy to get them by *postulation* (hypothesis). We have merely to observe that Plato was wrong in supposing that scientific principles were only to be proved by deduction from a higher self-proving principle. There is another and a better way, which is actually exemplified by the practice of the sciences. It consists in *assuming* our principles experimentally, and then confirming them by the success of the sciences that have been clever enough to make suitable assumptions. So all we need do is to drop the demand that premisses must be *proved true* before we begin to use them, and to conceive them as *hypotheses to be tested*. Then every inference will become an experiment. If the conclusion deduced *comes true in fact*, the premisses are verified. And if one verification is not thought to be enough, they can be verified again and again, until the most obstinate doubter has had enough. This is of course empiricism with a vengeance! Yet it does not transcend the hallowed forms of the syllogism, and incidentally disposes of all the stock charges against it.

And if the formal logician objects and insists that verification is not proof and cannot yield absolute truth, we can smilingly assent and say that this only proves that absolute truth is non-existent and unneeded. For there is no doubt that the sciences do not supply it, and that scientific method consists of *unending* verification. So Mr. Cator is quite right in holding that the truth of a premiss is strengthened, however imperceptibly, by every event that can successfully be taken as a case in point. The belief in human mortality is confirmed by every man who dies. But that *all men are mortal* is never proved *absolutely*. For it always remains a possibility, however remote, that the progress of science (or a miracle!) will some day enable some man to avoid death.

It may safely be admitted also that the infinite series has not disappeared. But it has lost its sting. It has been turned from an infinite *regress* which has to be *ended* before knowing can *begin* into the infinite *progress* of science, to which no one *wants* to set a limit! And the moral of it all is simply Pragmatism.

F. C. S. SCHILLER.

VI.—CRITICAL NOTICES.

The Logic of Modern Physics. By P. W. BRIDGMAN, Hollis Professor of Mathematics and Natural History in Harvard University. New York: The Macmillan Company, 1927. Pp. xvi, 228. 10s. 6d.

PROF. BRIDGMAN is far too good an observer to let his theories blind him to the facts of the situation he is analysing. And he sets the facts that are opposed to his theories alongside of his theories with an engaging "of course" that disarms criticism.

His purpose is to investigate in a general way—as a preliminary to the detailed investigation he hopes someone will some day make—the nature of the concepts employed in physical inquiry, and the way in which they help or hinder the discovery of new facts. He sees two main opposed attitudes to these concepts, and two correspondingly opposed methods of investigation. You may on the one hand endeavour to determine the fundamental concepts at the basis of science by definitions which refer to properties—as time, *e.g.*, was defined by Newton, or length by the mathematician—or you may express your concepts in purely functional terms, *i.e.*, in terms of the operations by which the properties referred to by the concepts can be quantitatively determined. To define time in this sense is not to speak of it as "that which from its own nature flows equably without regard to anything external" (Newton), but to give an account of the operations by which simultaneity, durations, and time-differences are actually measured. The first method of determining concepts leads the investigator to depend on preconceptions which may or may not correspond to anything in experience; the second method keeps him in close touch with experimental facts, and allows him to be guided entirely by those facts.

Prof. Bridgman regards Einstein as really basing his revolution on this second attitude to concepts; and it is clear that the revision of concepts made by relativity did involve a scrutiny of the actual operations by which measurements are made, and an endeavour to bring concepts more closely into relation with those operations. But Prof. Bridgman goes the whole hog with his view. He wants us to mean by the concept "nothing more than a set of operations". The concept is to be "synonymous with the corresponding set of operations" (5). "The proper definition of a concept is not in terms of its properties, but in terms of actual operations" (6). If the operations are different, the concepts should be different. To

measure length with a measuring rod, and by optical calculations, and by considerations of density, gives us really three different concepts, and we ought, strictly speaking, to use different names for them (16). But since in certain fields approximately the same numerical results can be obtained by various operations, we find practical convenience in retaining the same name, in spite of the difference of the operations.

It is clear that here is the first joint in the author's armour. If a concept is "synonymous" with a set of operations, then the fact that you reach the same "number" as a result of performing various types of operation of measurement should not justify you in using the same name to describe the different operations. And if the "number" is sufficiently important for you to use the same name in relation to your various operations whenever you reach the same "number," does not this indicate that the concept is *not* identical with the operations by which this number is determined?

The example (20-21) of the concept of length as extended to ultra-microscopical determinations illustrates this. The basic meaning of the concept is here, he says, optical. But, if this were all, he proceeds, our numbers would be dependent for their correctness on the correctness of optical theory. We restore our confidence when we can apply checks, *e.g.*, from considerations of density. But, we ask, if the concept is "synonymous" with the operations, if by the concept we mean "nothing but" the operations (I insist on this, for it is Prof. Bridgman's essential theory), why should we be uneasy about the "correctness" of these operations, and why should we find any satisfaction when we arrive at the same "number" by operations concerning density? If optical length is a different concept from density length, and if *there is no such thing as "length" except in terms of these or those particular operations,* what is the significance of checking one operation by another, why be uneasy about your operations?

A purely operational view of the concept is impossible: and Prof. Bridgman shows it by not sticking to it.

We may bring this out by another of his points. He insists (33) on the "approximate" character of empirical knowledge. "Any statement about numerical relations between measured quantities must always be subject to the qualification that the relation is valid only within limits." But, we must ask, what does this statement mean in terms of operations? If my successive readings on a scale give values ranging from 12·15 to 12·17, then those are the values I have obtained: and for short I may speak of "the value" as 12·16 ± ·01, and there is convenience in thus speaking; but if the concept is synonymous with the operation, then there is no point whatever in speaking of the value as merely approximate. It is true that the more closely the operation is described, and the more "cleverly" it is performed, the narrower is the range of values obtained; but whence comes the notion of cleverness in relation to the performance of the operation unless it is supposed that the

operation is directed to the determination of some property? And how can you speak of the result of the operation as only approximate except in relation to some property that you are trying to measure?

I have no objection to saying that concepts must be kept in the closest possible connexion with the operations by which the properties they refer to are to be determined; none to saying that a concept which refers to properties which cannot be determined by any actual operations should be regarded with suspicion; but it makes nonsense of one half of Prof. Bridgman's book to say that concepts mean "nothing more" than a set of operations.

Concepts have two important common features (23-24). The first feature of which the author speaks can only be understood if we assume that different operations in a particular field can determine the "same" magnitude; but if we assume this it is difficult to know what precisely the first feature comes to. As the author expresses it, it involves that different operations in a particular field may give the same "results" in the part of the field common to the different operations, and different "meanings" in the parts of the field not common. *E.g.*, we measure inter-stellar distances, distances between two points on the earth, and inter-atomic distances. Our operations are different in the three cases. We begin with the field to which measurement by means of a rod applies, and introduce new methods where this does not apply. The new operations are, he says, "of course" to be so chosen that "they give, within experimental error, the same numerical results in the domain in which the two sets of operations may be both applied"; but we have to recognise that "in changing the operations we have really changed the concept" (23). Now it seems clear that new operations, to deal with a part of the field inaccessible to the old operations, cannot be introduced unless there is involved fundamentally the same concept—however it may be the case that supplementary assumptions have to be made in extending the field. The determination of stellar distances by optical methods involves the application, with additional assumptions, of methods which can be used to measure ordinary distances. The same is true of measurement of inter-atomic distances. Unless we assume the concept of length to be basically the same, our methods break down. We must be prepared to recognise that in all parts of the field alike we are making basic assumptions, and be willing to give up the assumptions we are making in any part of the field—old and new alike; but I do not see how we could ever acquiesce in the suggestion that there are really fundamentally different concepts.

The second feature common to all concepts is the fact that as we approach the "experimentally attainable limit" (I gather, in the direction of smallness) "concepts lose their individuality, fuse together, and become fewer in number". Thus "at dimensions of the order of the diameter of an electron the concepts of length and the electric field vectors fuse into an amorphous whole" (24).

This is an important feature, and the accounts of its various aspects throughout the book are of great value and interest. It is one of the shortcomings of mathematics, the author thinks, that it does not recognise these differences of clearness and vagueness in concepts at various parts of the field, but treats the whole field in precisely the same way (63); and he would like some development of mathematics in this respect. Nevertheless, he sees that this shortcoming on the part of mathematics has its advantages, in guiding us in extending our knowledge into the twilight zone. For it enables us to predict certain consequences on the basis of theory, and so to seek verification in new facts (64).

There is a further point regarding concepts of which Prof. Bridgman speaks. Concepts are of two sorts: some are "mere inventions," some have "physical reality". The first sort are those "to which no physical operations correspond other than those which enter into the definition of the construct," the second are "those which admit of other operations, or which could be defined in several alternative ways in terms of physically distinct operations" (59-60). Strictly speaking, the account of the concept ought to allow only the first sort: and on the whole the author prefers the first sort, while admitting the importance of the second. The concept of elastic stress is an instance of the second (54-56); he argues strongly that we should regard the concept of an electric field as an instance of the first (56-58); as a "tool in thinking about, describing, correlating and predicting the properties of electrical systems," but as nothing more. So many fruitless attempts have been made in the past (*e.g.*, by Faraday and Maxwell) to regard it as more, that we should now give up further attempts. But it is clear that while you may be wrong in seeking more in the concept than the set of operations you originally used in constituting it, the attempt to do this does direct inquiry, and does lead to fruitful results. Prof. Bridgman sees this and stresses it (207-208). He admits fully that the man who has preconceived notions is likely to make more discoveries than the man who has not. But he sees the danger, and wishes to avoid it. On an empiricist theory it must be wrong to have preconceived ideas, however useful it may have proved in the past. "One of the problems of the future," he says, "is the self-conscious development of a more powerful technique for the discovery of new relations without the necessity for preconceived opinions on the part of the observer" (208).

The remainder of this review may well be spent on the contrast between Prof. Bridgman's theory and the facts that he sees in relation to this matter. Let us take one or two cases.

It is of the essence of his view, and of what he hopes for the future, that we should not allow ourselves to use concepts "of which we cannot give an adequate account in terms of operations" (31). But at the same time he sees (143 ff.) that the extension by Lorentz of Maxwell's equations from large-scale to small-scale phenomena involved precisely this use of concepts inexplicable in

terms of actual operations, and that indeed, from his point of view, the attempt made by Lorentz was entirely unjustifiable. But he praises the "vision of extraordinary genius" on the part of Lorentz, and recognises the willingness to devote years of arduous research to the attempt as "evidence of a pertinacity of purpose of the highest moral order". He admits even (149) that Larmor's attempt, less successful though it was than that of Lorentz, was much sounder than that of Lorentz, from the operational point of view. From that point of view, Larmor should have succeeded, Lorentz should have failed.

Let us take another instance. There is, he says, on the part of many physicists, "a longing for mechanical explanation which has all the tenacity of original sin" (47). He feels its dangers. Part of his purpose is to spread the conviction "that this longing is unjustifiable, and is worth making the effort to subdue" (47). He sees, however, that it has its usefulness, in suggesting new experimental relations. The list of questions he gives (188-189) regarding the electron in its orbit is enough to show how useful this desire for mechanical explanation may be in suggesting further investigations. What he objects to is the desire to persist with it in spite of failures. It would seem, he says (193), that there have already been sufficient failures to explain quantum phenomena in terms of mechanics to justify the expectation that in this field something quite different must evolve. But, we ask, have we had sufficient failures to justify giving up all further attempts? Can you ever say that no further attempts in this direction will lead to success? Does it not often happen that persistence here is rewarded just as much as it was in the other case of Lorentz?

We find a similar point of view expressed by the author as regards the objection often felt to the acceptance of action at a distance, and again of the idea of the jumping of the electron from one orbit to another, as ultimate. We ought, he insists (46-48), to be ready to accept such things as ultimate. But, as usual, he sees the other side. "Of course," he says (we have seen that the phrase is characteristic), "it is a different matter, and entirely justified, to imagine what the assumption of finer details in the process would involve experimentally, and then to seek for these possible new experimental facts" (48). But what else, we ask, does the mechanist in practice do? Is not this the great value of mechanism as a methodological postulate? But Prof. Bridgman does really want to object to this kind of thing as a general principle. He thinks that the endeavour to explain new facts in terms of the old, *when it takes the form of insisting that the new can be explained in terms of the old*, is thoroughly bad (43-44). When we reach a stage at which new facts, not apparently assimilable to the old, are discovered, we ought to wait: "to wait until we have amassed so much experience of the new kind that it is perfectly familiar to us, and then to resume the process of explanation with elements from our new experience included in our list of axioms" (42). In other

words, we ought to hold up the process of explanation while we are amassing new facts. He repeats this and stresses it on page 195. But how are we to "amass new facts" while holding up the process of explanation? What new facts? Is not discovery very largely a matter of seeking? It is true that we often, in our search, discover something other than that which we sought; but all the big discoveries have been gained by investigators who were guided by ideas—ideas which often turned out not to be right, but which were fruitful because they directed investigation along certain definite channels. It has always been the defect of the empirical logic, as applied to the theory of investigation, that it did not do sufficient justice to the importance of the idea of direction of research. Prof. Bridgman sees its importance, but does not incorporate it into his theory sufficiently; indeed his theory is quite incapable of doing justice to it. He suggests that research might be guided by investigations touching the number and the clearness or vagueness of concepts in a particular field (223-224); but the problem is more complex than this.

We have no space to discuss in detail his accounts of the special hypotheses of the simplicity of nature, of the finiteness of nature in the direction of the very small, and of the determinateness of the future in terms of the present. He sees, of course, how valuable these hypotheses have been in suggesting new experiments; but he wants to limit their possible harmfulness by recognising their limitations. He sees them simply as generalisations from past experience; he does not regard them as general methodological postulates. But it will not do to have a theory on which they are quite objectionable, while at the same time admitting their operational usefulness. They have their dangers; but what we need is a theory of investigation which will bring out their fruitfulness as well as their dangers. Prof. Bridgman's theory can without too much injustice be put roughly in the general injunction: When new facts come along, don't try to explain them; gather them until you are familiar with them, and then add them as new to the old store. This, I am sure, really will not do. One half of his book shows that it will not do. For it shows scientific inquiry alert, actively demanding not merely new facts, but new facts in certain directions and for certain reasons; puzzling over new facts as they come along, finding perplexing new facts a greater help to active inquiry than any number of new facts that fit more placidly with the old. Prof. Bridgman sees these things, of course; but instead of seeing that the development takes fire from the clash of the new with the old, he wants the process to go on without any sparks. He may be right in thinking that a new method is possible; what I doubt is whether his operational account is adequate to give it.

This review has failed of its purpose if it has not brought out the very great value and suggestiveness of Prof. Bridgman's treatment of the subject. His book is clear and well-written; it is

always easy to read; it is full of apt illustrations. Both to the student of scientific method and to the investigator in the laboratory it should prove of service. For while his theory serves to focus the questions, and to bring out the great dangers of preconceived ideas in science, he is too good an observer to let his theories blind him to the concrete facts of the situation.

L. J. RUSSELL.

Il Cardinale Nicolò di Cusa. La Vita ed il Pensiero. By PROF. PAOLO ROTTA. Milano: Società Editrice "Vita e Pensiero," 1928. Pp. xvi, 448. 20 lire.

BY his edition of the *De Docta Ignorantia* of Nicholas of Cusa, Prof. Rotta did a very great service to students of philosophy. This is continued in his present work, which, however we may differ in point of view, puts before us abundant materials for a judgment on the Cardinal's life and thought as a whole. To state my own view briefly at the beginning, I cannot agree with the Catholic professor that Bruno's "divine Cusanus" represented an essentially mediæval synthesis. On the contrary, I think he is entitled to be called the first modern philosopher; though a description of him that I have met with as "the first modern man" seems to me to go too far. While he showed himself a reforming mind not only in philosophy but in action, his political and social outlook was still bounded by the mediæval conceptions of Church and Empire. In thought, however, he was quite distinctively a man of the Renaissance; and the Renaissance, I hold, belongs to the modern period in its wider sense.

The period from Cusanus to Bruno may indeed come to be regarded as in one aspect more modern than the period that followed. For it meant a renewed effort to grasp the whole, to construct an ontology without external presuppositions. In this it could only anticipate. The later period had to go to school again and try to gain some surer foothold as regards the possibilities of human knowledge. The second period, approximately equal to the first chronologically, might be described as "from Descartes to Kant". The third has not yet lasted as long; and it would be hopeless at the present stage to attempt to sum it up. One thing, however, may be said: that Spinoza stands out as an exception in the second period; and that the third includes a movement of return to his problems, which were also the problems of Cusanus and of Bruno. But, of course, the third period also continues to resemble in some ways the second, which is distinctively the period of "theory of knowledge". In this it still has a certain resemblance to Scholasticism with its devotion to method.

Prof. Rotta's extensive work (of which, I must remark by way of criticism, the proofs have not been very carefully corrected) is divided about equally between the Cardinal's Life and Thought; but

his aim, as stated by himself, is to deal especially with the thought. To treat this as essentially mediæval is, in his view, a compliment; for mediæval means with him unitary, synthetic. He admits, indeed, deviations both in thought and, to a less extent, in action. So officially Catholic is his view that he finds the severe discouragement of popular superstitions (concerning pilgrimages, indulgences, and so forth) by Cusanus as legate in Germany to have been in part an aberration from the norm rightly fixed by the authorities, but holds on the other hand that he was too lenient in attempting accommodations with the Hussites, especially in opposing the crusade preached by the Franciscan Capistrano, the scourge of Bohemia, who laid down the principle, and acted on it, that *haeretici et schismatici rationabiliter occiduntur* (p. 178). When he comes to philosophy, however, he is sometimes a modern in spite of himself, as may be shown in reference to an objection he raises to an opinion expressed by me in the article on "Nicholas of Cusa" which I contributed to MIND, October, 1925.

I there adopt, as he remarks, Bruno's view that a theory of the Incarnation was in the philosophy of Cusanus an inconsequence, and that the third book of the *De Docta Ignorantia* is only arbitrarily connected with the first two. Now it is remarkable that he himself, in his exposition, practically leaves out the element of distinctly Christian theology. The three books are not provided with titles; but appropriate titles would be "De Deo," "De Mundo," "De Christo". For the third title, if the argument were continued on the lines of pure philosophy, the obvious substitute would be "De Homine". Now Prof. Rotta, in his exposition of the thought of Cusanus, has three successive chapters entitled "L'assoluto," "L'universo," "Il conoscere," not indeed founded entirely on *De Docta Ignorantia*, but essentially following its divisions. It will be observed that the pantheistic drift is here definitely marked, and that the substitution I have suggested is tacitly made. And this is accentuated by the comment (p. 366), that not only was the Cusan a precursor of the pantheistic philosophy of modern Germany, but that his teaching on the Incarnation seems to find its echo in the rationalistic interpretations of Kant, Schelling, Hegel and Strauss.

On another point there is essential agreement as regards general interpretation, but difference of opinion about a fact. Prof. Rotta and I equally hold that in philosophic thought Cusanus was a true successor of John Scotus Erigena; but, in the article referred to, I have said that he cannot have read Erigena, whose great work was peremptorily sentenced to destruction by Honorius III. in 1225. Prof. Rotta, on the other hand, positively affirms that Cusanus had read Erigena (pp. 258-259). The evidence produced is from the *Apologia*, a defence of the *De Docta Ignorantia* against an Aristotelian professor at Heidelberg, who had in effect attacked Cusanus as a pantheist; or, in the language of the time, as one of the "universalizantes". The defence is addressed by one disciple of

Cusanus to another, but was doubtless founded, as it claims to be, on conversations with the master. The insight and candour of the Cardinal in recognising his own affinity to writers reputed heterodox is evident throughout, and the work of Erigena is undoubtedly referred to, and described with approximate correctness (Ioannis Scotigenae περὶ φύσεος tomi); but the lost work of David of Dinant is referred to in the same terms, as having its value for fit readers, but as one that ought, like the books even of "St. Dionysius," to be kept from eyes that are too weak to receive intellectual light. Thus the passage proves only that Cusanus knew about the book, as Bruno afterwards knew about the book of David, from theses quoted by the later scholastics. If he had actually found in some monastery one of the six or seven copies (since discovered) that had escaped the flames, it seems likely, in view of his known zeal in the search for manuscripts, that he would have said more about it. His library, Prof. Rotta tells us (p. 248), is in large part preserved at Cues; but nothing is said of the preservation there of a copy of the *De Divisione Naturae*. He would not have felt the need of concealing it if he had possessed one; for he seems to have been ignorant of the actual condemnation both of Erigena and of "David Dynanto," though he knew that Amalric of Bena and his followers had been condemned for maintaining similar positions.

In any case, the resemblance between the two thinkers can be perfectly explained by kinship of mind and by common sources. Both turned by predilection to Greek studies; Erigena when they were about to cease in Western Europe for six centuries, and Cusanus when they were newly returning. And the knowledge of both was limited in the same way; the Greek writers by whom they were inspired being men of decidedly less genius than themselves. Cusanus, it is true, was able to extend his knowledge later; but, as Prof. Rotta tells us, when he came into direct contact with Plato and with the interpretation of Platonism in the commentaries of Proclus, his formative stage was past and he read them through the eyes of Dionysius. The remarkable thing is that his keen critical intelligence (tested earlier on the False Decretals), led him, after reading Proclus on the *Parmenides*, to doubt the identity of "the Areopagite" with the convert of St. Paul at Athens. These interesting facts, however, do not modify the conclusions we are entitled to form about the relation of Cusanus to his even more daringly pantheistic predecessor. The translations of Dionysius by Erigena were of course no longer of importance, since he could read the originals; and an intimate knowledge of the *De Divisione Naturae* would probably have fettered his originality. Of this there is no sign.

Prof. Rotta, though, as I have said, an official Catholic, does not like the "Aristotelian intellectualism" of Aquinas. Indeed he sometimes comes near to speaking of Aristotle as the evil genius of the Christian Middle Age. The element of mysticism in Cusanus attracts him by its apparent opposition to intellectualism; but it

seems to me that he goes quite wrong in speaking of Cusanus as a "Christian voluntarist". The super-intellectual vision which is the positive thing indicated by the "learned ignorance" is not volitional. In relation to faith in the particular religions of the world, we find in him (as indeed Prof. Rotta has pointed out) more than a trace of the Averroism by which Padua, when he was a student there, was permeated. He cites the Arabian philosophers with respect; he would have liked to find common ground with the Mohammedans as well as with the Hussites; and, in a sentence quoted by Prof. Rotta (p. 301), he puts sympathetically the position that there is in reality only one religion beneath the variety of ritual: *Non est nisi una religio in rituum varietate: una est religio et cultus omnium intellectu vigentium.*

Thus he shows himself all round, in greater or less degree, as Prof. Rotta somewhat reluctantly admits, historically a precursor of Bruno and Spinoza. That he is not to be considered as a mere "path-breaker" I agree. His strenuous practical career, the eagerness of his curiosity as a humanist, and his many-sided interest in the details of developing science, would not suffice to give him a place by himself; but his name must continue to stand out as that of a metaphysician of genius whose fame can never be wholly absorbed in the greater fame of his successors.

There I should like to stop; but I find it necessary to put in a protest against the attempt, in a few pages of "Conclusion," to claim a churchman who was at once a great philosopher and steeped in the spirit of the Renaissance, as a champion of modern Ultramontanism. "If Humanism," says Prof. Rotta (p. 446), "was truly, as has been believed and is still believed by many, affirmation of the dignity of man in the world, the Cusan was in no such sense a humanist; for his whole being, alike as thought and action, consisted in affirmation of the absolute power of God, beyond all that is in things and in man". The antagonism here supposed between God on the one side and things and man on the other is quite inconsistent with the expressly pantheistic element in the thought of the Cusan; and he certainly would never have conceived the antithesis stated by the author on the next page, that to be with the Rome of Peter "meant to be with God and for God, while to be against Rome meant to be predominantly or exclusively for man". So far as the dignity of man is concerned, his own words are decisive. "Although God is centre and circumference of all regions of the stars, and from him natures of diverse nobility proceed as dwellers in every region, lest so many places of the heavens and the stars should be vacant; and perhaps of the lesser bodies not this earth only is inhabited; yet it does not appear that there can be given a nobler and more perfect intellectual nature, within the limits of this nature, than that which dwells here on this earth as in its own region, even if other stars have inhabitants of another kind; for man does not desire another nature, but only to be perfect in his own." (See Prof. Rotta's edition of the *De Docta Ignorantia*,

p. 113: "Nam, etsi Deus sit centrum et circumferentia omnium regionum stellarum, et ab ipso diversae nobilitatis naturae procedant in qualibet regione habitantes, ne tot loca caelorum et stellarum sint vacua, et non solum ista terra fortassis de minoribus habitata, tamen intellectuali natura, quae hic in hac terra habitat ut in sua regione, non videtur nobilior atque perfectior dari posse secundum hanc naturam, etiamsi alterius generis inhabitatores sint in aliis stellis; non enim appetit homo aliam naturam, sed solum in sua perfectus esse.")

T. WHITTAKER.

VII.—NEW BOOKS.

Die sittliche Tat: ein moralphilosophischer Versuch. Von HANS DRIESCH. Mit einem Bildnis des Verfassers. Pp. xi, 210. Leipzig: E. Reinicke, 1927. M. 8.50.

THIS work is divided into four parts: I. Prolegomena (46 pp.), II. Doctrine of Duties (106 pp.), III. True and false Enlightenment (22 pp.), IV. Religion as the goal of Enlightenment (24 pp.). The first part, we are told, is to be regarded as of quite subordinate importance: it aims merely at giving a brief preliminary account of the fundamental ethical concepts. Its contents are, in fact, rather miscellaneous, and it may be sufficient here to state the two propositions which have an important bearing on the subsequent exposition. 1. When we say that anything 'ought to be' or is 'good' we imply a reference to some ultimate, but unknown or only vaguely conceived, goal or state of things in the remote future, which our good actions will contribute to bring about—in the remote future, for Driesch insists strongly in Part IV. on a belief in immortality, and the belief is apparently implied here. 2. For guidance as to the contents of duty we must rely on our instincts, instinctive perceptions, or feelings, but these must be carefully distinguished from mere custom-engendered feelings—though how the distinction is to be made is not clear.

The second part is for Driesch the all important one. In it are discussed (1) the duties of the individual towards himself (his body and his soul); (2) his duties towards others as individuals (duties negative and duties positive), truthspeaking, and property; (3) duties towards groups, under which head Driesch deals with marriage, the State, punishment, education, the political constitution, war, patriotism, police, international relations, etc.

The third part discusses the way in which a true enlightenment, or education in sound moral beliefs, can be promoted. Driesch, by the way, seems to have a considerable faith in Coué, Freud, and a science, not yet in existence, which he calls Parapsychology; he thinks Couéism is destined to play a great part in schools. In the fourth part Driesch maintains that the goal of all true enlightenment is religion, although in his own case this religion remains of a vague metaphysical character and he is unable to accept any positive religious doctrine, even that of Catholic Christianity or that of Buddhism, which he would rank as the two highest types. One highly important element in metaphysical religion is the belief in immortality, for Driesch holds that apart from a belief in immortality there can be no moral obligation. "Wahrlich, der konsequente Unsterblichkeitsleugner kann eigentlich gar nicht ein bewusst sittlicher Mensch sein; und wenn er, zum Glück, doch meist praktisch ein sittliches Wesen ist, so wird das seiner theoretischen Inkonsequenz verdankt" (p. 187).

There is a certain interest in seeing what a distinguished man of science has to say about morals, and, in view of recent historical events, a special interest in seeing what a German writer has to say on the topics of war, war-guilt, and peace, but to the serious student of ethics the book has little to offer. It is odd that those to whom the designation of men of science

is specially applied should appear sometimes to have so little appreciation of what science means in subjects outside their own special province. How could any adequate treatment of the topics of Part II. be given in 106 pp. ? Driesch says, indeed, in the Preface, that this part of ethics can be no more than an expression of personal convictions (a 'Bekenntnis'), but he talks of axioms, uses argument (though insufficiently), and in general displays plenty of dogmatic assurance as to the truth of his opinions. A man of sixty, he thinks, may reasonably venture to write a book on ethics, since he has had the necessary experience of life. The reader, however, is likely to think that many things in the book are crude enough to have come from a younger author. Examples will be better than any further general comments.

The first duty Driesch discusses is that of the individual towards his own body, when the body is regarded, not as an instrument of the soul, but merely as a living thing: the question is, whether the individual ought to keep his body alive. Driesch decides that he ought, on the ground that the instinctive desire of life seems to indicate that earthly life falls within the scope of the cosmic plan. When the duty not to harm others comes to be discussed, Driesch infers this duty from the existence of remorse, not seeing that he is going round in a circle. On the other hand he seems to take it to be a fact that some persons do not experience any remorse even for committing a murder, but he dismisses their case as one of moral insanity. Of course if we ought not to harm our neighbour, then *a fortiori* we ought not to kill him, but why is killing so specially heinous? Not primarily for any of the ordinary commonplace reasons, not *e.g.*, because being killed is painful—the man might have died more painfully of cancer in later life—but for the more profound reason that *we do not know what death is*. Capital punishment is absolutely condemned—in 6 lines—on the grounds that any ends which it serves might be attained otherwise and that it puts an end to the possibility of reform. "Hierüber ist ethisch gar nicht weiter zu reden."

In the above cases the duty of the individual to himself or to other individuals is discussed quite apart from the consideration that he and they are members of a society, and it is a fundamental principle with Driesch that the abstract axioms laid down at this stage must never be contradicted at any later stage. I will now take some examples from the section on duties towards groups. Marriage, when childless, ought to be easily dissolved by consent—this is simply stated without discussion. There ought to be only one State, because humanity is one; but more than that, the final purpose of the State as such, or as a legal institution, is to make itself superfluous. The law of the State ought to be obeyed only so far as the conscience of the individual approves of it. If there is a conflict between civic duty and individual conscience, the latter ought in all circumstances to take precedence—this, of course, is a consequence of Driesch's abstract procedure together with his view about axioms. A democratic republic is the only form of political constitution which, in view of the dignity of man, is worthy of consideration from a moral standpoint. A subject of a State who has not the vote would be under no obligation to obey even good laws. But democracy is to be tempered: mental tests have shown that there are different grades of intelligence, hence additional votes should be given for exceptional ability or other such qualification. Driesch's discussion of war—a topic to which, with other allied topics, he devotes special attention—shows some courage, for he is a thoroughgoing pacifist and his views are not likely to be popular in his own country. War is never to be entered upon, even in defence of neutrality. "Da kommt etwa, ohne jede moralische Rechtfertigung, ein 'Feind' und erpresst alles Mögliche, besetzt wohl das Land. Man lasse ihn machen,

nur gehorche man ihm nicht; man erdulde Leiden um der sittlichen Reinheit willen. Der Feind wird bald merken, wie es steht. Ja, er wird merken, dass er eine *lächerliche* Rolle spielt—das schlimmste, was seinem 'Heldentume' geschehen kann" (p. 117). Although armies are condemned, Driesch allows that for internal security a body of police is, "ich sage nicht berechtigt, aber entschuldigt, weil sie [*i.e.*, die Polizeitruppe] praktisch, leider, notwendig ist. Auch zum Dienst in ihr aber darf man, weil es sich um Tötung handeln könnte, keinen zwingen. Andererseits ist dem, der sich zur Polizeitruppe *freiwillig* stellt, Achtung, sogar sehr *hohe* Achtung entgegenzubringen; und zwar *hohe* Achtung deshalb, weil er *freiwillig Sünde auf sich nimmt*—das Töten, wenigstens der Möglichkeit nach. Die Sünden aller konzentrieren sich in ihm, und er *weiss* und *will* das" (p. 130). With these quotations I think I may conclude my examples.

H. BARKER.

The Social Good. By E. J. URWICK, M.A., Professor of Political Science in the University of Toronto. London: Methuen & Co. Pp. vii + 246. 10s. 6d. net.

The Public and its Problems. By JOHN DEWEY. London: George Allen & Unwin, Ltd. Pp. vi + 224. 7s. 6d. net.

That these two books, very dissimilar in outlook and in aim, should nevertheless have many features in common is an interesting indication of the way in which, in political theory, the wind is blowing. They agree, for example, in exalting the individual and in rejecting all theories that would absorb him in, or explain him by, a group mind—though Mr. Urwick confesses to having once been an adherent of a view of that type. And they both deplore the tendencies of modern civilisation to enslave him more and more, however extensive his freedom may be in theory, to an environment of ever-growing complexity from which there is little prospect of his release, though they share a somewhat diffident trust in some of the same remedies for his condition—for example a resuscitation of the local community and a purification of the Press. That neither of them deals satisfactorily with the difficulties about freedom and other fundamental topics which follow from the combination of these two attitudes, is due to their further agreement in what might be regarded as the error of taking the individual for granted, as something given and understood, who need not be theorised about or explained. They agree also in being somewhat popular and personal in style and consequently rather discursive in exposition—though less to the detriment of their arguments than might be expected, Mr. Urwick's book (in which this feature is carried to its greatest lengths) being redeemed by the obvious sincerity and enthusiasm of his writing, and Mr. Dewey's by the air of authoritative wisdom with which he manages to invest his utterances. And finally they both approach their task as moralists rather than as experts in any of the social sciences, with the result, in view of their manner of writing and their attitude to individuality, that they avoid the hasty and narrow generalisations of the specialist but give us less the thorough treatment of fundamental questions which we expect than a philosophic discussion of more detailed points, not altogether escaping the risk of vagueness which besets the attempt to treat comprehensively so complex a subject-matter.

But it is about here that the agreement ends, for as the titles suggest the purpose of the two works is very different—Mr. Urwick being mainly concerned with what ought to be, Mr. Dewey with what is and has been

and might possibly be; Mr. Urwick with the solution of problems and Mr. Dewey with their statement. Both starting from the individual, Mr. Urwick endeavours to tell us what is really good for individuals living together in society and to judge how far the most prominent movements in contemporary social theory and development—things such as Socialism, Eugenics, Psychoanalysis and Education—tend to promote it; while Mr. Dewey attempts to lay bare the foundations of society and the state in individual human nature, tracing the development of institutions and pointing out the obstacles in the way of their proper growth. According to Mr. Urwick, Happiness is the good (the *social* good of course, but *for* individuals) and has five components, Work, Interests, Friendships, the Pursuit of an Ideal, and the enjoyment of satisfactory Physical Conditions; and most of his book is devoted to showing how much and how little the achievement of these things depends on social bonds—though with frequent digressions on general questions such as the nature and reality of progress, the relevance of which to this main theme is not always obvious. He is prevented, however, from developing a satisfactory argument not only by his digressive habit of writing but also by a somewhat surprising belief in original sin—for such is the name bestowed by him on the anti-social tendencies of individuals which he supposes to impede progress in all but the very smallest communities. This doctrine, whether true or not, is certainly consistent with his individualism; but it is hardly in place in social theory, which indeed if taken seriously it should show to be an impossible or at least a futile pursuit. Mr. Urwick seems partly aware of this, for in spite of his insistence that there is only one kind of Happiness, he adopts the supposedly Platonic distinction between social and 'super-social' Good, and claims to be confining himself to the former. But this does not evade the difficulty; for his argument requires original sin to operate principally in the social sphere, to which it can least plausibly be attributed. And in any case the doctrine makes it impossible to evolve a satisfactory theory of the individual and his social relations with which to replace the justly abandoned theory of the group mind. We can, however, be grateful to him for his earnest attempt to answer the question, strangely neglected by political theorists, of what is good for men living in society; and for his comprehensive discussions, in the light of his answer, of the various attempts at its realisation which are being made in practice or propounded in theory. His Platonic analogies, too, though not always convincing, have the very salutary effect of reminding us of the strong individualist strain in Plato, which we are too ready to forget, especially when fathering our theories of the state on him.

Mr. Dewey, approaching the matter from the standpoint of method, insists that things must not be explained in terms of concepts or causes but of consequences. He does not explain how a consequence differs from the effect of a cause, but he will have nothing to do with conceptual analyses of the state or attributions of it to political instincts or analogies between it and the animal or physical kingdoms. Accordingly all he allows himself to consider are individual human beings who perform acts which have consequences. These consequences are public when they affect a sufficient number of people other than the agents in question, and what he calls 'a public' is simply a number of individuals affected by acts with public consequences; and when organised and equipped with officials it is a state. For him 'the outstanding problem of the public is the discovery and identification of itself' (p. 185); and this is a matter of increasing difficulty owing to the wide extent, familiar to the observer of industrialism, of the public consequences of the acts of certain individuals and groups. The public created by modern circumstances, the Great Community for which Mr. Dewey is seeking in his book, is world wide;

and yet the only publics capable of discovering themselves would appear to be small local communities, which owing to the same causes are far too numerous and in too acute conflict with one another to achieve any release for the unfortunate individual. Nor, it might be added, is it possible to feel that Mr. Dewey's other remedy of a wide extension of freedom of thought is, however desirable, likely to prove more effective; for we can admit to Mr. Urwick that there is sufficient original sin in men to make them slow to take advantage of it. Even with regard to the pr per organisation of states and publics Mr. Dewey has little to tell us: they must be democratic in spirit—for democracy is just community life—but they need not be so in machinery. Indeed, democratic machinery as ordinarily understood is little more than one of many possible ways of dealing with the main problem of democracy,—that its citizens are all public officers as well as private persons, and consequently the scene of acute conflicts between their two capacities. The right organisation indeed depends on the circumstances which it is designed to meet: 'it is not inherent and fixed but . . . determined experimentally and critically'. Indeed one of the most attractive features of Mr. Dewey's book, absent for good and ill from Mr. Urwick's, is a lively historical sense, which not only enables him to enforce and illustrate this point, but also suggests to him an interesting conception of social development based on human nature and its habits, and avoiding the extremes of economic determinism and the theory of the omnicompetent individual. But it also has the unfortunate effect of inducing him to evade certain fundamental problems—of which perhaps, as in Mr. Urwick's case, that of the relations, actual and proper, between the individual and society is the chief—and to trust to the mills of history to grind out satisfactory solutions of them. Yet whatever they may be grinding out, and however much the arrangement of practical details must be left to their operations, it is surely possible and profitable to discuss such problems at least in outline, in entire independence of history. Indeed it is mainly on account of their suggestiveness in such discussions that the lessons of history are of interest to the political theorist, though to Mr. Dewey it is only future history that would appear to have any practical value.

While to the specialist in any of the detailed social sciences it may be permissible thus explicitly to refuse to deal with fundamental questions, it is surely not to the philosopher claiming to discuss things comprehensively, whatever arguments he may produce in support of his attitude. And it is the cardinal weakness of these two books that they make this refusal, consciously and with arguments suited to their different points of view. Mr. Urwick does, it is true, consider the important problem of the social good, but his consideration of it, though free from historical bias, is vitiated by his failure to deal satisfactorily with the more fundamental problem of the individual. And Mr. Dewey, although his book is readable and suggestive like everything from his pen, does not come to grips even with Mr. Urwick's problem, though one would have thought that his point of view made it of special importance to him. Yet this defect is after all no more serious here than in most current writing on these topics, and apart from it there is much for which we can feel indebted to our authors—to Mr. Urwick for his ethical estimations of social tendencies and panaceas, to Mr. Dewey for his analysis of social development and his attempt at a purely pragmatist theory of the state, and to both for their fidelity to the moral and philosophic points of view and their insistence that individual human nature is the real subject-matter of social theory.

O. DE SELINCOURT.

Symbolism: its Meaning and Effect. By A. N. WHITEHEAD. Cambridge University Press, 1928. Pp. viii + 104. 4s. 6d.

In this book Prof. Whitehead discusses the "influence of symbolism on human life" in order to show that there is direct perception of "causal efficacy" in a real external world. Owing perhaps to his desire to say everything at once, the development of the various theses maintained is so unsystematic and so encumbered with vague allusions, that it is difficult to discover what it is exactly that is being asserted. In the attempt to disentangle Prof. Whitehead's meaning, the present reviewer found it necessary to collect passages from different parts of the book in order to reread them in connexion. Accordingly no attempt will be made to follow his order of exposition. If the result involves some misconception as to what is most important, perhaps some of the fault may not unfairly be charged to Prof. Whitehead's deliberate obscurity.

To begin with the formal definition of symbolism: "The human mind is functioning symbolically when some components of its experience elicit consciousness, beliefs, emotions, and usages, respecting other components of its experience" (p. 9). These components are respectively 'symbols' and the 'meaning' of the symbols. The transition from 'symbol' to 'meaning' is called "symbolic reference". Any component of experience may be symbol or meaning; hence, all are equally real, so that we have direct knowledge of an external world. There are two sources of this knowledge, *viz.* "presentational immediacy" and "causal efficacy". These are modes of "direct recognition". Presentational immediacy is not a synonym for "sense-perception". It is said to be "our immediate perception of the contemporary external world" (p. 25). This mode involves 'sense-data' which are dependent upon the sense-organs of the percipient organism and which are also characteristics of physical entities, *e.g.*, a wall. The sense-data are apprehended in their spatial relations; thus we see 'colour away on the wall for us'. Both the colour and the spatial perspective are abstract entities arrived at by "discarding the concrete relationship between the wall-at-that-moment and the percipient-at-that-moment" (p. 18). Presentational immediacy, therefore, abstracts from time. "Causal efficacy" is "the conformation of present fact to immediate past" (p. 49). Prof. Whitehead is so concerned to maintain that we have direct perception of "causal efficacy" that he nowhere clearly explains wherein exactly "causal efficacy" consists. It is at least an unfortunate name, chosen probably for historical reasons. The point seems to be that "what is already made becomes a determinant of what is in the making" (p. 54). What is apprehended *now* is apprehended as having characteristics determined by what is immediately *past*. The fusion of these modes of direct recognition into one perception constitutes symbolic reference. It is difficult to reconcile Whitehead's discussion of this fusion with his first account of symbolic reference. The fusion is rendered possible by virtue of the fact that presentational immediacy and causal efficacy have two elements of structure in common, *viz.*, sense-data and locality. The sense-data both exhibit the contemporary world in its spatial relations, by reason of their presentational immediacy; and they exhibit the imposition of the characters of the immediately past environment, especially of the bodily organs, upon the perception. There is, therefore, a multiple ingression of sense-data, requiring a reference to the perceptive modes. The factors that enter into these modes, *viz.* colours, sounds, spatial relations, etc. are abstract, but "abstraction expresses nature's mode of interaction and is not merely mental".

Prof. Whitehead maintains that action is conditioned by the interplay of these two modes. In contemplation the element of presentational

immediacy is dominant; in action presentational immediacy becomes a symbol determining the future. Thus he asserts: "in practice we never doubt the fact of the conformation of the present to the immediate past. It belongs to the ultimate texture of experience, with the same evidence as does presentational immediacy" (p. 54). To admit the equal primitiveness of the two elements is to admit that we do not start with "distinct existences" and the problem of discovering a connexion between them. Thus, Prof. Whitehead is once again protesting against Hume's initial statement of the problem of causation. Hume's error, he insists, arises from his regarding time as "pure succession," whereas "Time is known to us as the succession of our acts of experience, and thence derivatively as the succession of events objectively perceived in those acts" (p. 41). Pure succession is an abstraction from the irreversibility of time. This conception, which is doubtless important, is not sufficiently worked out for it to be profitable to discuss it here.

In his former discussion of Hume's problem, Prof. Whitehead employed a different method of approach and a different terminology. Now, instead of "cognisance by adjective" we have "presentational immediacy"; instead of "cognisance by relatedness" we have "causal efficacy". This is not a mere change of terms; the different mode of approach has resulted in a different analysis. But, as usual, Prof. Whitehead makes no attempt to connect his two treatments of the same problem, nor to show how one has developed out of the other. One important difference seems to be that in this new discussion a fundamental distinction is made between spatial relations and perspectives as falling within presentational immediacy and time as falling within causal efficacy. In the opinion of the present reviewer, this is an improvement. But it is inconsistent with much that Whitehead has said elsewhere. Another doctrine that he seems to have forgotten is that "Nature is closed to Mind". There seems to be some contradiction between that dictum and his assertion, in the present volume, that "it is a matter of pure convention as to which of our experimental activities we term mental and which physical" (p. 23). Prof. Whitehead would confer a great benefit upon students of his philosophy if he would attempt to set forth clearly what he means by the words "physical," "nature," "mind," and what he conceives to be the relations between what they denote. The difficulty of understanding him is increased by his failure to connect his present views with his past views, or to repudiate the latter. The metaphysical outcome of his philosophy of nature appears to be either an extreme monism or a pluralism which recognises the reality of what is related. This book makes no contribution to the decision between these alternatives. But there have been many signs in his later writings that he is tending in the direction of the first alternative. The acceptance of such a conclusion would, in the opinion of the present reviewer, involve the loss of all that was most valuable in the metaphysic implicit in Prof. Whitehead's *Tarner Lectures*.

L. S. S.

Mind and Body: A criticism of Psychophysical Parallelism. By Hans Driesch. Authorised translation with a Bibliography of the author by Theodore Besterman. London: Methuen & Co., 1927. Pp. xviii, 164. 6s. net.

This little book is a translation of the third edition of Dr. Driesch's *Leib und Seele*, revised by the author, with some additions, and aims at refuting, by the methods and data of normal psychology only, the doctrine

of psychophysical or, as Dr. Driesch prefers to call it, psychomechanical parallelism. A second part expounds very briefly the alternative which he offers in its place.

There is one distinctive feature common to all the views of the connexion of body and mind which pass or have passed by the name of 'parallelism,' and that is the denial that mere mind and mere matter interact with each other. In their positive doctrines, however, they may vary even fundamentally, and critics of parallelism too often neglect to make it plain what particular brand is the object of their attack. This cannot be said of Dr. Driesch. The parallelist on his showing takes a thorough-going mechanical view of nature, including living organisms. "Mechanism acts with elements and with activities between elements" (p. 79). There are "at most three kinds of elements: positive electrons, negative electrons, and ether" (p. 80). Ether may perhaps already be abandoned, and ultimately we may need only one kind of element. As for the way in which these elements interact, "recent theories recognise as ultimate modes of action, at most, the mode of action which is expressed in Maxwell's equations, Newtonian gravitation, and impact" (p. 81). Here again, Dr. Driesch points out, the trend of modern Science suggests that in the long run we may need only one of these—the first. All variety in nature is due merely to the varying spatial distribution of the elements with their elementary activities. Parallelists, then, are taken to believe in a mechanical interpretation of nature; and such an interpretation implies a very narrow range of ultimate differences, in quality or mode of activity, in the physical world.

It is with mechanical occurrences understood in the above sense that mental facts or "conscious contents" and their changes are supposed to be correlated without interaction between them. (It is unfortunate that the term "conscious" is used throughout the book indiscriminately in the active and the passive sense for "that of which we are conscious" and "that which is conscious of something"; and the same is true of the term 'unconscious'.) Dr. Driesch is not very clear about the nature of the correlation. "The mental thing," parallelism is supposed to claim, has "its 'parallel representative' in the realm of physical things." The two are supposed to be "'ultimately' the same"—an identity which is on the one side material, on the other side mental (pp. 94-95). But this is not to explain how changes in the one side are, on the parallelist's view, correlated with changes in the other, and we have to infer Dr. Driesch's interpretation from the arguments which he uses to show that correlation is impossible. These all seem to be based on the fundamental disparity of nature between 'conscious content' and physical occurrences mechanically conceived. It would appear, therefore, that he takes parallelism to imply not only concomitant variation but discernible resemblance or analogy between the physical and the mental. And in particular he assumes that for the parallelist every distinction which psychological analysis can discover on the mental side must be matched by a corresponding distinction on the physical side. He does not, for example, allow for the possibility that thought and sense may vary concomitantly with each other, so that there need not be a neural counterpart for each, but only for the two together. A parallelist might be satisfied with a neural counterpart for each change in the total mental state.

The doctrine of parallelism so understood is only a crude form of materialism, and Dr. Driesch has given a crushing refutation of it. What he relies on chiefly is the fundamental disparity of nature between the physical mechanism on the one hand and mind as "conscious content" on the other. In particular, he urges as a final argument the immensely wider range of ultimate qualitative differences of "conscious content" as

compared with the two or three ultimate elements which enter into the constitution of the physical world.

The novelty of Dr. Driesch's book lies not so much in his general line of argument as in the exceptional thoroughness with which he has followed it out in detail. As we have said, it seems more than adequate against the special materialistic theory which he is attacking. But as against other forms of the doctrine that mere mind and mere matter do not interact but are connected in a more fundamental way, it cannot be said to be relevant. Why should the parallelist, in this general sense of the term, be bound to take a 'mechanical' view either of nature in general or of organic life in particular? Why, again, should he be bound to affirm the essential analogy of nature between the physical and the mental?

In the brief second part of the book, which has the appearance of being unduly compressed, Dr. Driesch suggests on his own account a three-fold parallelism. The three sets of conditions or events which are parallel to one another are (1) 'conscious' or 'phenomenological' facts; (2) the unconscious conditions and processes, in the way of dispositions, etc., by which the psychologist explains the contents of (1); and (3) non-mechanical process in the organism. This view seems *prima facie* tenable, but it raises metaphysical problems about the relation between the conscious and the unconscious factors with which Dr. Driesch does not deal.

A. K. Stout.

Komplexqualitäten Gestalten und Gefühle (Neue Psychologische Studien, Band 1). Edited by F. Krueger. Munich: C. H. Beck, 1926. Pp. 692. M. 35.

This is a collection of nine papers edited by Prof. Krueger of Leipzig. The first is a long introduction by the editor expounding the teaching of the Leipzig school on the problems involved in the apprehension of form, and emphasising the importance of a whole-wise vision in psychological problems in general. The following seven papers contain experimental evidence. There are two papers by Friedrich Sander on optical illusion, and the rhythmising of rows of similar and equidistant lines which he compares with the rhythmising of regular auditory stimuli. This is followed by two important papers by Gunther Ipsen on the apprehension of form in general, with particular reference to the illusion described by Sander, and on the development of form in the perception of nonsense syllables. Johannes Hermann reports experiments on smell, attacking the artificial separation of the total experience into touch, heat, and other components. Wilhelm Würdemann contributes an essay on the relation between feeling and memory, based on one of the tenets of the Leipzig school. The next paper is a report of experiments on the influence of form on the perception of difference when an arm of a right angle is compared with a line placed beside it and drawn in the same sense. The last, and one of the most interesting, is a paper by Johannes Rudert describing his experiences when he was compelled to replace a wounded right hand by learning to use his left. The account of the alternations between the new 'attitude' and the old is an important contribution to the study of habit formation and integrative functioning.

It is, of course, recognised by every one now that new language has to be invented to enable us to manipulate the concepts of '*Gestalt*,' and '*Ganz*'. As Krueger points out, the Germans have always emotionally recognised the importance of organic unities, and their language is therefore curiously convenient. '*Strukturiertheit*,' '*Ganzheit*,' '*Gestalt-*

ungsdrang,' and the various modulations which can be invented on those themes, are all of them awkward to fit into an English setting. Until we have devised a linguistic for those notions we shall not progress far in theoretical Psychology.

The attacks on the 'Bit-wise' vision, 'mosaic-ism,' are now rather flat. The ideas which appear to be peculiar to the Leipzig school, which is dominated by Prof. Krueger, are three. Firstly, they attempt to make a distinction between various wholes, notably between the '*Ganz*,' and the '*Gestalt*'. The '*Ganz*' achieves its fulfillment in a mass differentiated from a background but uniform as apprehended, while the '*Gestalt*' requires to be as full as possible of organised detail; the point in the latter case being the organisation, which may be of various 'tightnesses,' while the point in the case of the '*Ganz*' is the homogeneity which may have different degrees. This is an important distinction, and the rules which are put forward about the one are different from those put forward about the other.

The second doctrine concerns feeling. This is difficult to grasp. Feeling is, it seems, a '*Komplexqualität*,' that is to say, a phenomenon of consciousness which comes about when there is a certain organisation present, in virtue of that organisation being present—a new kind of emergence. It is exceedingly difficult to give an account of feelings in any case, because the ground has first to be cleared by making the distinctions between pleasure-unpleasure, emotion, and such experiences as belief-feelings, doubt-feelings, recognition-feelings. Until this is done, all that is written on feeling is bound to be obscure. If an account can be given which links up feeling with the organisations which come about in minds, and if, as seems to be the case, association takes place on a basis of organised unities, rather than mere co-presentation, then feeling would naturally favour recollection, because in proportion to its strength, it indicates a correspondingly 'tight' organisation. This seems to be the thesis of Würdemann in the seventh paper.

The third theory is even harder to understand. One cannot, says Krueger, give a satisfactory account of the apprehension of wholes and forms unless one first admits the underlying unity of the person—"*das dispositionelle Total*," and unless one thinks genetically, unless, that is to say, one regards '*Strukturiertheit*' as '*das Entwicklungsnotwendige*'. Is this saying more than that the tendencies which operate in behaviour interact, and modify one another and perception as well, and that it is of the nature of mind to be what Driesch calls '*ganzmachende*'? It is hard to say. One feels that with the advantages of the German language as a medium for expressing synthetic notions, goes a disadvantage; it is apt to run away with one's thoughts, and one looks for a stricter analysis of the relations within the '*Gesamttotal*'. The first step has undoubtedly been a failure to see the wood for the trees, now we are in danger of missing the trees in our insistence on the fact that they make a wood.

There is a curious theory, which is to be found in Ipsen's paper on the perception of nonsense syllables. He holds that we must replace the old theory of sensation, modified by mnemic factors, turning into perception, by a developmental theory according to which the immediate whole gradually unfolds itself into a '*Gestalt*'—there is an "*Entfaltung eines Grundes bis zur seiner Erfüllung in einer Gestalt*". This is all very well, and fits some of the introspective evidence he gives, but there is a danger of its landing us with unperceived early stages of development on those occasions—the majority—when we seem to have a structured whole already before us without any stages of development at all. The whole point of the effort to establish the immediacy of perception is missed if we are to replace unnoticed sensations by unnoticed stages of development.

One cannot help doubting the advisability of publishing detailed accounts of experiments in a volume which aims at putting forward the theoretical inferences which are drawn from them. It is convenient to have journals in which the accounts of experiments can be given, and books in which the inferences are expounded. If both are published together the result is, as in this case, very unwieldy, particularly in the absence of an index.

W. J. H. SPROTT.

Das Unpersonale Erlebnis. By W. EHRLICH. Halle: Max Niemeyer, 1927. Pp. 264. M. 9.

In this interesting book Dr. Ehrlich attempts to set forth a new theory of knowledge which, he believes, will solve the subject-object problem. The solution is to be found in a new concept of experience, *viz.*, of an Impersonal Experience. He complains that philosophers have neglected the real problem of epistemology, which is to determine the relation of reflective knowledge, *i.e.*, knowledge about, to experience as such. The result of this neglect has been to split knowledge into two unrelated realms and thereby to create the pseudo-problem of building a bridge between them. Moreover, this cleavage has forced the scientific thinker to take refuge in a mysterious "substance". It is not possible, however, to separate the epistemological from the ontological problem.

The ordinary notion of experience is much too narrow; it must be taken to include both "outer" and "inner" experience, whilst, in the widest sense of "knowledge," all experience is knowledge. The "kind of reality which is an experience" (*Erlebnisrealität*) is given as self-sufficient, as independent; it requires no material, no support, *in* which to inhere. Hence, we must get rid of the notion that there is a "transcendental ego," or a "bearer" of the experience. Dr. Ehrlich finds the best examples of what he means by this Impersonal Experience in the sphere of æsthetic experience and of personal relationships. Thus he appeals to the intense experience of listening to music, or of being absorbed in the beauty of Nature; or, again, to the intimate union of friend with friend. In such experiences, he says, there is no division into "I" and "things," but a pure Impersonal Experience. Thus he writes: "Die da-seiende Symphonie ist weder ein Ding noch ein Begriff; sie ist eine Erlebnis-realität" (p. 26); and, again, speaking of the apprehension of a beautiful scene, he says: "Dann nämlich ist gar nicht mehr ein 'Gengenüber' da, sondern die Landschaft—das Landschaft-erlebnis unpersonaler Art—ist selbst-präsent, hat weder einen Beobachter 'vor' sich, noch eine Dinglichkeit 'hinter' sich, sondern ist absolut 'da'" (p. 29). He attempts to explain in a similar manner the experience of knowing such particular things as a tree, or a brook. The brook we see is not "*the*" brook; it is but a fleeting something, eternally new; whereas what the brook is, *i.e.*, "*the* brook," is an invisible, inner experience. It is "ein Bleibend-erlebtsein, eine Durchgängikeit, 'hinter' welcher gar nichts gesucht werden darf". Its reality is spiritual. Thus "diese interne Erlebnisheit macht das Wesen der 'Dinge,' d.h. der Konkretheiten, die dadurch erst zu einem der Bezeichnung Standhaltenden werden, wie: Landschaft, Bach, Baum, Blatt, Grashalm und ähnlichem" (p. 141). Nevertheless, we must not simply identify the "Gegenstandsregion" with the "Seinsregion," but it is not at all clear how we are to avoid this identification.

In spite of the fact that Dr. Ehrlich writes in a simple style, it is not easy to grasp what exactly the "Unpersonale Erlebnis" is. It seems to the

present reviewer that everything—trees, brooks, landscapes, colour, men—is reduced to an emanation of a spiritual, non-personal reality. It is significant that, in order to explain his conception of knowledge, he has to appeal to the absorption of the æsthetic experience. It is the man who absorbs himself in a poem or Goethe's who knows Goethe, not the literary savant who knows about his works. Dr. Ehrlich distinguishes two kinds of knowledge (*Wissen*): explicit knowledge, which develops by comparing and distinguishing; and intensive knowledge, which consists in the grasping of an intensive present of a whole of parts. The latter is compared to the Indian doctrine of *Yoga*; it is a submergence (*Versenkung*); and he says: "Der Zweck der expliziten, der urteilenden Erkenntnis ist demnach die intensive Präsenz, das intensive Wissen" (p. 219). Yet, he warns us to beware of the error of the doctrine of *Yoga* which loses the personal in a bare nothing. The Unpersonal must not be taken as *real being*, the personal as merely *expression*. But it is difficult to see how Dr. Ehrlich's conception of the "Unpersonale Erlebnis" is to avoid this error. He contents himself with the remark that it must be taken not as the *end*, but as the *way*. Thus, although Dr. Ehrlich has certainly succeeded in bringing out some of the difficulties in the problem of knowledge, and although he has indicated some objections to various attempts that have been made to solve it, he has been less successful in showing clearly what is the exact nature of his proposed solution. Perhaps the conception of levels of abstraction would have aided him. But this he would probably reject as a device of the scientific intellect.

Dr. Ehrlich believes that by his new concept of impersonal experience, he has not only solved the subject-object problem, but has further discovered a theory that has an important practical bearing upon the problem of free will. Freedom is an experience, not a concept. In discussing freedom, we are confronted with the concept; but we *are* free only in living. It is difficult to regard this as a solution of the problem. Both with regard to the epistemological and the practical problems, it may be said that Dr. Ehrlich's theory only appears to offer a solution because it denies ultimately the distinctions which give rise to difficulties, without, however, showing that it is possible to dispense with these distinctions.

L. S. S.

Begriff und Beziehung: Studien zur Grundlegung der Logik. By Dr. Wilhelm Burkamp. Leipzig: F. Meiner, 1927. Pp. 302. M. 12.50.

To those who, like the present reviewer, turned to mathematical logic in the hopes that an answer would be given to some pressing metaphysical difficulties, this book ought to present considerable interest. The real need, so far as philosophy is concerned, is not more symbolism, if we mean by symbolism neatness and compactness, but a thorough sifting of ideas on the more philosophical aspects of the subject. What precisely is the mathematician doing when he presents us with a system of signs which claims to be giving us some information? And what is the value of the information? The merit of a philosopher may often be judged as much by the type of questions that he examines as by the answers that he propounds, and, this being the case, Dr. Burkamp is certainly to be appraised as a philosopher. His book examines the questions that ought to be examined in the present state of mathematical theory. He conducts an enquiry into the nature of concepts, relations and propositions with a competent knowledge of Symbolic Logic and with real proficiency as a philosopher.

The work owes its inception to a study of the questions of the status of

the categories of existence and quantity in the Logical Calculus. The author conceives that Logic, being a study of mere form, can dispense with the category of existence altogether, and an appropriate analysis is conducted, in order, of the "concept and proposition," "individuality," "existence," "class and number in symbolic logic," and "Logic, Mathematics and the *a priori*". In the first main division, on concepts and propositions, it is shown that concepts are necessary for knowledge and their importance is evidenced by the stress laid on them by Aristotle and Plato. (Incidentally, there is, on page 4, an outrageous translation from the *Phaedrus*, where the punctuation in the German text differs so widely from the Greek that it is only with difficulty that the two passages can be recognised as being related.) On an analysis of the form of a concept a unity is displayed, but this unity is really a variable. Occurring as the subject of a proposition, *e.g.*, "Birds of a feather flock together," the phrase "Gleich und gleich" is a variable which refers to particulars. As a variable it enters into the constitution of a proposition and the categorical proposition thus becomes a relation between two variables, *e.g.*, in this case, "If there are two birds of a feather, then they will flock together". Hence all propositions really express a relation of implication between two variables, the variables being concepts. "Kings are men," again, is really a relation of implication. "If x is a king, x is a man." This gives the definition. . . . "A logical proposition is a joining together by means of an 'implication-function,' which, through the proposition, is established as valid or invalid, or at least, presents a problem to be determined."

On this analysis, it follows that a proposition is not asserting a fact of existence. When we assert "All men are mortal" we do not imply that there are men, nor are we making a statement about any definite quantity. This question of existence, vital as it is to the author's purpose, appears to be the most unsatisfactory part of the work. In Part III. there is an analysis of what is implied in the term "existence," the upshot of which is that entities exist if the concept can be applied with "validity" or if there are individuals corresponding to the concept, but the question of validity (the word used is Gültigkeit) is vague and undetermined and the examples quoted on page 147 do not make it very clear. As regards the individuality of existing things, the Law of Contradiction and the Law of Gravity cannot be said to exist because they lack the necessary individuality.

The remainder of the book deals with what is familiar to logicians. An analysis is conducted on the question of existence and quantity in Symbolic Logic and there is an excellent chapter on the way in which the theory of numbers is deduced from logical principles. In this part of the work the main interest is an exposition of the implications of the work of mathematical logicians made familiar to us in this country by Whitehead and Russell. As an exposition of the concepts involved in this development of logical principles the book is excellent, but we cannot but feel that there may be much to be said against all that Dr. Burkamp contends. And we confess to a slight feeling of disappointment that no mention is made of any views to the contrary, say, of an authority like Kronecker, more especially as the work professes implicitly, on every page, to disown such views. In short, we are left with the same question with which we began. "What *is* the mathematician doing?" If he is merely doing what Dr. Burkamp asserts, the philosopher is left wondering as to why he bothers his head about him. But at any rate, books of this nature will get rid of one misunderstanding, namely that there is Logic and Mathematical Logic. There is, of course, only Logic. But is Logic what Dr. Burkamp contends it is? Readers will differ considerably in their replies to this question.

J. N. WRIGHT.

Struktur und Charakter des platonischen Phaidros. By Z. DIESENDRUCK. Vienna and Leipzig: W. Braumüller, 1927. Pp. viii, 56. M. 2.70.

This seems to me a generally excellent essay on the *Phaedrus*. The purpose is, by a study of the method of the dialogue, to show that it is a true artistic unity in spite of the apparent difficulty of saying whether its main topic is "love" or the principles of rhetoric. The writer's view is that the key to the composition is given by the great Orphic-Pythagorean myth of the soul. Since the myth assumes the "three parts" of the soul as its foundation, we are to find a corresponding triplicity of motives in the dialogue. The "discourse of Lysias" and Socrates' rejoinder discuss the "love" which appeals to nothing better than the *ἐπιθυμητικόν* and issues in brutal carnal exoneration; the myth itself describes a love of the *θυμοειδές* which culminates in romance; the rest of the dialogue deals with the Eros of the *λογιστικόν* and its progeny, dialectic. I do not feel sure that there is not something fanciful in ascribing any such conscious plan to Plato, but the adoption of it enables Mr. Diesendruck to comment with a great deal of insight on the various parts of the dialogue. His summary of the three speeches, that of Lysias and the two of Socrates, for example, strikes me as admirable, and no less admirable is his general account of the Platonic dialectic and its connexion with "erotic" of a certain kind, the direct living communication of thought from one kindred mind to another, and again his excellent treatment of myth as Plato's vehicle for dealing with "becoming". It seems to me that we are on more doubtful ground when Antisthenes is dragged in by the ears as the supposed person whose views on the subject of Eros are represented by the "first speech" of Socrates. I see no sufficient reason to hold that there is any reproduction of the views of anyone, or that Socrates is doing more than he professes to be doing, showing how Lysias might have reached his conclusion that "one should not grant favours to a lover," with better morality and a better ordering of the argument. I am comforted to find that the author takes what seems to me to be the sound view that the "speech of Lysias" itself must be a genuine *λόγος* of the essayist. But I should like once more to protest against the standing assumption of so many writers that the "erotic dialogues" justify any inference whatever about the personal temperament of Plato. They profess to tell us something of the temperament of Socrates, and since the same temperament is ascribed to him in the *Alcibiades* of Aeschines, I should say their testimony ought in reason to be accepted. Whether they tell us anything, one way or the other, about the personality of Plato we could only say if we could be sure whether the *Symposium* and *Phaedrus* are "confessions" or are miracles of inspired portraiture. I believe the author is right in siding with those who regard the dialogue as one of Plato's maturity, but *à propos* of his concluding pages, I would urge that it contains nothing in itself that bears on the question. The assumption of the conversation is that Socrates and Phaedrus are discussing the relative merits of Lysias and Isocrates as *λογογράφοι* at some date before the final withdrawal of the poet Euripides from Athens, as they might quite well have done. At any time in his literary career Plato might have written a dialogue round this situation. If I may say so without offence, I could wish Mr. Diesendruck had recognised the existence of good work on Plato by other than German scholars. Raeder and Levi, to mention only two names and those non-British, both deserve some consideration in connexion with the *Phaedrus*.

A. E. TAYLOR.

Mind and Personality. An Essay in Psychology and Philosophy. By WILLIAM BROWN, M.D., D.Sc. London: University of London Press, Ltd., 1926. Pp. x, 344. 12s. 6d.

On page 2 of this book the author explains why he should not be expected to begin his discussion with a definition of personality. This delay, at the start, is entirely proper: but when we find him saying on page 303, "My readers may object that I have never told them what personality is" we may perhaps sympathise with the readers. For it does not seem to be true, as Mr. Brown here explains, that what he has omitted is only "what the world calls personality". Mr. Brown, by his own showing, set out to connect and to adjust the standpoints of psycho-pathology, various modern forms of psychology, and philosophy in relation to his central theme of personality and of mental unity. As a practising psycho-therapist, a psychologist of repute and more than an amateur in philosophy, he obviously had exceptional qualifications for this task: and, of course, he shows his quality in many parts of his discussion. On the main issue, however, it seems to me—I sincerely hope I am wrong and that many readers will perceive my error—that Mr. Brown has made no serious effort to accomplish what he set out to do. If in a way synoptic he is also sketchy. Constantly complaining of lack of space, he yet allows himself repetitions (*e.g.*, in his account of the meaning of sentiment), and includes much in which he is interested but whose special relevance to his theme he does not attempt to show (*e.g.*, the chapter upon "Mind and mathematical ability".) Moreover, I cannot think he has studied to be precise. To say as he does on page 130 that the normal is the ideal and the abnormal the pathological surely does not yield an exclusive alternative. Or again much that he says, as it seems to me vaguely, about "instincts of self-preservation" is not made clearer by the explanation on page 87 that this instinct is *fear;* especially when this statement is taken in conjunction with the further explanation (p. 134 n.) that fear hampers and harasses and is merely in the way.

So far as I can see, Mr. Brown's final impression concerning personality (there is, properly speaking, no argument) is given on page 297, and runs as follows "The self, the mind that psychology deals with, is not the same as the soul. Psychology is not the science of the soul; psychology is the science of the mind, of mental process in time, and as a complement of it, you have the experiencing ego, and that ego has its own reality and its own unity. This is the idea of the pure or transcendental ego, as distinct from the empirical ego. Psychology deals with the empirical ego, shows how it develops in course of time, how the young child starts life with the empirical ego partially organised, to a certain extent inherited. The child inherits aptitudes and interests from ancestors, just as it inherits the organisation of its physical body. Talent is inherited, but genius is not inherited. Talent is characteristic of the empirical ego, the inter-relation of the pure ego with the material environment. Genius is characteristic of the pure ego, which is out of time, although it reveals itself in time."

We are also informed that "the only complete person is the Absolute or God" (p. 290); yet our hopes are completely dashed on page 307 where we are told that "personality itself is appearance rather than complete reality. In this view I am following F. H. Bradley. However much he has been criticised, that central position of his seems to me to be literally unassailable."

JOHN LAIRD.

Religious Conversion: A Bio-psychological Study. By SANTE DE SANCTIS, Professor of Psychology in The University of Rome. Translated by Helen Augur. London: Kegan Paul & Co. Pp. 324. 12s. 6d. net.

THIS is an interesting volume in more ways than one. The motive the author assigns for its production is that "religion in general cannot fail to interest all who are capable of rising above the pitiful sordidness of daily existence," and yet he finds "as a rule my scientific colleagues in the laboratories and hospitals ignore religion". It occurs to him, therefore, that a scientific study of certain phenomena of the religious life may convince some that religion cannot be set aside as a matter of magic, or a tissue of clerical abuses. Again, Prof. De Sanctis's standpoint is interesting because most studies of conversion have been from the Evangelical Protestant side. This was written under the shadow of the Vatican, though by no means under its influence. Yet the general difference in standpoint between religion in Italy and religion in Great Britain is evident. For example, dealing with the predictability of conversion he states that "the theologian would of course take exception to this demand, since according to his doctrine a transcendental, and therefore unpredictable factor takes part in every conversion, that is 'grace'". In this country at least only a few dogmatists would take the attitude attributed here to theology. Prof. De Sanctis is personally entirely untrammelled by dogmatic theology, but one notices the difference in the theological background of Rome as compared with that of London or Cambridge.

The analytical portion of the book deals with the causes, types and process of conversion, and its after effects. Here in the main the treatment follows familiar lines, though a discriminating use of psycho-analytic hypotheses makes these chapters more illuminating than the similar work of earlier investigators. The main centre of interest is the chapter upon the "Pathological Theory" of conversion. After an exhaustive analysis, the author concludes that the true type of mystic and convert can be distinguished from the psycho-degenerates without having recourse to any appeal to the value of the process in their lives. He is convinced that there are definite psychological factors which mark the distinction. He does not deny that even the true type have neurotic and morbid qualities in some cases, but regards these symptoms as coincidental and not identical with their religious qualities. Schumann, Blake and Nietzsche were mentally afflicted but there is no ground for regarding their work as the direct product of their mental infirmity, nor the work of the religious genius as the direct product of the pathological side of his character.

The moderation of Prof. De Sanctis's argument justifies his expressed intention of being neither the paladin of grace nor the preceptor of unbelievers. There are manifold signs of a wide and profitable consultation of sources and authorities, but as these are kept to the notes at the end, the argument of the book is not disturbed, and one must congratulate Prof. De Sanctis on a stimulating and suggestive study from a somewhat unfamiliar standpoint.

E. S. WATERHOUSE.

Contemporary Thought of Great Britain. By ALBAN G. WIDGERY, M.A. London: Williams & Norgate, 1927. Pp. ix, 254. 5s.

Mr. Widgery approaches his subject—which is British philosophy during the present century—in a spirit of dejected resignation. What he wants to see, and what is notoriously lacking, is a "vigorous comprehensive philosophy which, with established intellectual supremacy, might at the

same time dominate the minds and guide the lives of the people" (p. 232). He gives his contemporaries credit for their candour in facing distinctions which should not be disguised and, incidentally, for some other merits; but condemns them, on the whole, for what he considers the perennial defects of British philosophy, *viz.* preoccupation with the immediately apparent, an insular blindness to history and an improper intimacy between practice and speculation. He suggests, but does not expect, that light may come from the East: and on the main issues he expects nothing at all from many of the younger men.

Despite his objection, however, he contrives to give a readable account, always at first hand, of the opinions of a great many writers concerning naturalism, absolute idealism, pragmatist humanism, realism, and also concerning theism so far as this last is "more or less independent of Christian dogma". In his narrative he always avoids the obvious danger of giving a *catalogue raisonné* in place of an exposition, and he seems to me to succeed very well in doing what he clearly meant to do, *i.e.*, to give the general reader some information, not too technical and yet not superficial, both about the works of professional philosophers and about other writers such as Mr. Shaw or Sir Oliver Lodge. On occasion he is ready to speak severely: and it is refreshing to hear Mr. Russell called platitudinous, Mr. Alexander arraigned for being "simply fogging" in one of his more picturesque expressions, and a prelatic philosopher blamed for "allowing high-sounding phrases to cover a lack of clear thinking".

In the main, with the possible exception of Mr. Eddington, most philosophers are mentioned of whom one would expect the author to give some account, and although Mr. Widgery's humanistic and theological interests may preponderate unduly over his concern with the sciences, there is little doubt, I think, that his careful and well-informed exposition deserves to find, and will instruct, many readers. There are some minor slips in the titles of books, and, I seem to remember, in one philosopher's name: but these need not signify.

JOHN LAIRD.

Symbolic Logic. By HENRY BRADFORD SMITH, Professor of Philosophy, University of Pennsylvania. New York: F. S. Crofts & Co., 1927. Pp. 135. $2.00.

The main purpose of this book is to show that an interpretation can be given to each of Aristotle's four kinds of categorical propositions which will render valid both subalternation and syllogistic reasoning from universal affirmative premisses to a particular conclusion. Prof. Smith begins by showing how the dilemma can be constructed from relations with certain formal properties. The formulation of the dilemma so constructed contains, however, no disjunctive relation and thus differs from the traditional formulation. According to Prof. Smith a disjunctive relation may appear in the conclusion of the dilemma but cannot do so in the premisses. The reasons for this are given in the last chapter of the book, but to me they have not been made sufficiently clear. They follow from the writer's belief that implication must not be defined as in *Principia Mathematica*; yet it is difficult to know what is implied by his rejection of that definition.

At the end of the first chapter Prof. Smith points out the analogy between implication and inclusion making it clear that, unlike the majority of contemporary logicians, he follows Boole and Schröder in attributing a similar, if not identical, character to propositions as to classes. The meanings of zero and one are then defined. The writer thus reaches the main point of his book, namely, the falsely assumed breakdown of

Aristotelian logic. He maintains that this breakdown does not occur provided that Aristotle's categorical propositions are specially interpreted. To take one case, the A proposition which has been interpreted as asserting that one class a is included in another class b, must be given the following more complicated interpretation, "a is included in b *and* either b is included in a, or a is not included in not-b and not-b is not included in a," or in Prof. Smith's symbols

$$"(a \angle b)\,[(b \angle a) + (a \angle b')'\,(b' \angle a)']".$$

It is successfully demonstrated that with this, and corresponding interpretations for the E, I and O propositions, all the processes of immediate inference are valid, and that by various more or less lengthy devices the different moods of the traditional syllogism and some of its conjoined forms can be established. Prof. Smith has certainly shown ingenuity in constructing the arguments by which he establishes these two conclusions. I am not however convinced that much is gained by retaining two processes of inference at the price of so complicated an interpretion. Moreover Prof. Smith's similar treatment of propositions and classes conceals the analysis implicit in a recognition of their differences.

The book would have been more easily read had it been less condensed and supplied with some cross-references.

E. M. Whetnall.

Freiheit, Wollen und Aktivität. By Hans Reiner. Halle Saale, Max Niemeyer Verlag, 1927. R.M. 6. Pp. 172.

The sub-title of this book is "Phänomenologische Untersuchungen in Richtung auf das Problem der Willensfreiheit," and in the making of acute distinctions it certainly well follows the traditions of the "phenomenological" school. Whether the distinctions chosen are always those most relevant and useful for the subject is a matter on which critics will differ, but there is no doubt that it can be recommended as a sound and careful psychological analysis intended to determine what elements of our inner life are under the control of our will. It must, however, be regarded as only a preliminary introduction to the problem of freedom, not itself an attempted solution but a collecting of distinctions which may be useful in solving it, and which metaphysicians may be in danger of ignoring in favour of obscure generalities. As such, it fulfils a very useful function, but if we open the book expecting it to deal with the question of determinism *v.* indeterminism we shall be disappointed: it distinguishes the act of choice between alternatives from various other experiences different in kind but it leaves it an entirely open question whether that act of choice is itself determined and, if so, whether or not such determination is compatible with the freedom required by morality. The work falls within the sphere of psychology, not philosophy, though it is a psychology that is useful for the philosopher.

To give a short summary of the book is practically impossible owing to the fact that the argument depends on the constant introduction of fresh distinctions signified by terms which can rarely be accurately translated by a single English equivalent. Perhaps the chief upshot is that the voluntary is found to be always inseparably bound up with the involuntary, for choice between alternatives presupposes at least the previous occurrence to our minds of these alternative possibilities, and this itself must ultimately be non-voluntary or at anyrate non-volitional. But the elaborate classification of possible situations still leaves one with the feeling that little has been done to determine the extent to which we can control our

feelings and our thoughts by the will, though this should be a chief object of the book. Indeed, the relation of desire and will is left in considerable obscurity. Also, surely something should have been said about the "new psychology" with its far-reaching doctrines as to the real causes of action and its attack on the conscious will. Whether we agree with it or not this important movement cannot legitimately be ignored in a psychological account of volition. But if we turn from what the author has omitted to what he has said little fault is to be found with his accuracy and thoroughness.

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VIII.—NOTES.

To the Editor of "Mind".

Dear Sir,

In the April number of Mind Dr. C. A. Strong takes exception to a footnote in my paper "Why the Body has a Mind" published in the January number. In that footnote I stated that the *argument* of Dr. Strong's important book "Why the Mind has a Body" (1903), "was based on my earlier book, 'The Nature of Mind and Human Automatism'". Dr. Strong simply says "This is not the case".

I must think that Dr. Strong has not taken in the significance of the word "argument" in my statement, for he immediately proceeds to explain that "the theory itself is one with which I [he] had been long acquainted and which I [he] had been inclined to accept as true, ever since my student days under Paulsen in Berlin". Paulsen, he goes on, owed the *theory* to Fechner who in turn was indebted to Kant and the latter to Leibnitz. "The theory has thus a long and not unrespectable ancestry". Surely; and I might add other writers. But I must emphasise that the footnote said nothing about the *theory* of the relation of the mind to the body but referred only to the particular *argument* for it which we both set forth and which I believe was original with me. Here the contention is germane to the point that the mere suggestion or formulation of a theory counts for little, as may be shown by the history of many a scientific theory. It is the collection of data, the marshalling of facts and the reasoning from those facts that count; *i.e.* the argument. And I may add, as I pointed out in my paper in Mind, the recent discoveries of science regarding the nature of matter have for the first time in centuries given us the material with which we can formulate a scientifically grounded theory of the relation of the mind to the body and thereby take the problem as one of "emergent evolution" out of the field of philosophy.

It would be much more agreeable to me to refrain from any further discussion of this personal matter and gracefully accept Dr. Strong's disclaimer, as I am ready to do. But I feel obliged to explain the grounds on which I made the statement in the footnote in question, for if I do not do so I should be left in a false position. I may therefore, I hope, without appearing to question Dr. Strong's statement, give the historical facts on which my brief footnote was based.

When I read Dr. Strong's book which he sent me at the time of its publication, I was astonished to find that the argument was the same as that contained in my book (1885) and later restated in my article "Hughlings-Jackson on the Connection Between the Mind and the Brain" published in "Brain," 1891, although no reference was made to my writings. At the suggestion of William James and R. H. Hodgson, who took the same view of Dr. Strong's book, I wrote a letter to the Psychological Review, published as an article under the title "Professor Strong on the Relation between the Mind and the Body" (Nov. 1903, vol. x., no. 6, p. 650). In this article, largely made up of quotations from my

book and the "Brain" article, I expressed great satisfaction that Dr. Strong had adopted the same views and welcomed him "as a new knight" "to break a lance for the faith". I said nothing in the way of criticism unless it be considered criticism to call attention to the fact that his *argument* was not new but a "capital restatement" thereof. "We who believe," I wrote, "in pan-psychism, or mind stuff as Clifford defined it, welcome all new converts to this doctrine and particularly any one who will expound it as clearly and with such accurate use of language as Prof. Strong has done. But I write this letter at the suggestion of Prof. William James to call attention to the fact that the *argument* as laid down and developed by the author is not new nor, therefore, now presented for the first time as might be inferred from Prof. Strong's work, but I believe was anticipated by me in a work now possibly forgotten by the philosophic world." Again, "The argument by which these conclusions are reached is essentially the same as that by which Prof. Strong arrives at the same result, but the writer who above all others should be credited with first setting forth the doctrine in a definite specific form is Clifford" . . . . "My own argument differs essentially from Clifford's exposition, as indeed I was not familiar with his essays at the time of writing, although I took pains, just before going to press, to call attention to them in my book."

I should like to have it noted that my whole stress was on the *argument*, as stated in the questioned footnote. I explicitly stated that the doctrine was not new, although perhaps I may add that I supposed, when I first worked it out as a first year medical student (1876), that it was such in my ignorance of philosophy. It does not seem to me to be of any consequence whether Dr Strong had read my book or not. The "Brain" article was a full restatement of the theory as given in the book and contained the whole argument, which is the main point.

This letter or article in the "Psychological Review" brought a very gracious reply from Dr. Strong in the form of a handsome acknowledgment of my earlier exposition. But it will be again noticed that Dr. Strong did not distinguish between "argument" and "doctrine".

The opening paragraph of this reply ran as follows: "In the last number of this Review Dr. Morton Prince points out that the pan-psychic doctrine of my "Why the Mind Has a Body" was anticipated in his "Nature of Mind and Human Automatism" published in 1885. The interesting quotations which he makes from the latter and from an article in "Brain" for 1891 certainly bear him out in this assertion.

"With the book I regret to say I was unacquainted but I read his article some ten years ago and I think that it contributed to turn my thoughts in a pan-psychic direction. Its clear teaching that consciousness is the reality that appears as the brain process helped to fix that hypothesis in my mind, and I have no doubt that the pages of Paulsen [1892] to which I have always felt myself mainly indebted, had a fuller meaning to me in consequence. I regret the more that, by the time when I came to write, my memory of its contents had lapsed, and I failed, rather inexcusably it now seems to me, to mention Dr. Prince among earlier expositors of the theory."

Is it not possible that it was this original *argument* that gave the pages of Paulsen "the fuller meaning" and that it cropped up from the unconscious when Dr. Strong came to write his brilliant book—a much more scholarly exposition of the theory, I have no doubt, than my own? Whatever be the explanation, I, also, have no doubt, and I am glad to remember William James had none, that Dr. Strong's oversight and adoption of the argument was entirely unconscious. Such tricks, as we know, does the human mind play us!

I trust these facts and the above quotation of Dr. Strong's own words will acquit me of any intentional injustice to him, however the similarity of our arguments for the pan-psychic theory be explained.

MORTON PRINCE.

UNIVERSAL MENTAL COMPETITION.

To prevent serious misapprehension by the readers of MIND, I feel that a recent contribution to it by Dr. Drever calls for some brief corrective remarks. The writing in question was a critical notice of my book, *The Abilities of Man*. In general, it was a long, quiet, and even respectful exposition of the book. About one chapter, however, it broke out into what might almost be called vehemence. In the following passage he gives his tune.

"Surely here, if anywhere, the reader may rightly demand the utmost carefulness, scrupulous abstention from all exaggeration, and rigorous logic. What do we find? First of all, he (the present author) cites the phenomena usually described under the head of 'span of apprehension' in psychological textbooks, then some of the phenomena which one would naturally take as illustrating the 'unity of attention,' then emotional dissociation of various orders. . . . Following this we come upon the extraordinary statement that these phenomena have been entirely neglected by the majority of psychologists."

Now, much of this, I fear, may be for the reader of MIND not a little misleading. Let us take first the actual words of mine referred to; they ran thus:—

"In earlier times, the larger half of eminent psychologists seem not so much as to have mentioned the phenomenon," so that really my statement referred solely to "earlier times". Following this up, I went to the length of giving a long list of the eminent bygone psychologists whom I had specially in mind. One may venture to hint that not only the writer of chapter VIII., but even its critic, may have need of "the utmost carefulness," and "scrupulous abstention from all exaggeration."

Turning to the objection suggested by me against most of the *modern* psychologists, this was of very different nature. It was by no means that they failed to mention any of the phenomena; in fact, I stated just the contrary. My trouble was that they failed to trace back these phenomena to any ultimate principles; that on this account their treatment of the subject remained fragmentary, defective, and unscientific; that, in consequence, they never penetrated through the diversity of appearances down to the sameness of essence, but instead they lightly and offhand took the superficially unlike phenomena to belong to an unlimited number of different "orders";—in fact, I fear that they did very much what now Dr. Drever seems to be doing.

Such, then—right or wrong—is the view which was really presented in chapter VIII. And in this wise, I think, the chapter ought to have been depicted to the readers of MIND.

C. SPEARMAN.

I am extremely sorry if I have given a wrong impression of Chapter VIII. of Prof. Spearman's notable book. Such was far from my intention. Personally I disagree with his conclusions, and one of the principal points at which I disagree is as regards his interpretation of the phenomena he discusses in that chapter. But that is no excuse for misrepresenting him. In the main I do not think I have done so, and the point which he raises

is after all quite a minor point with respect to the main line of my criticism. I realise after Prof. Spearman's explanation that I did get a wrong impression of his meaning. At the same time I must point out that in my use of the plural 'phenomena' in place of the singular I was not professing to quote him, but merely referring to the psychological phenomena discussed in the chapter. The 'phenomenon,' to which he refers, is that of 'universal mental competition,' and this already suggests a theory which I reject.

The paragraph from which Prof. Spearman quotes begins thus: "In view of its paramount importance this law of universal mental competition might well be expected to have everywhere and always constituted a dominant feature in psychological discussion, investigation, and speculation. And indeed . . . some thinkers have been impressed by it most profoundly. Strange to say, however, these appear not to have been the rule, but only the rare exception". And he continues "In earlier times," as he has quoted. The next paragraph begins: "Nor can any great improvement be chronicled for the majority of the most modern writers. The bare facts, no doubt, do nowadays usually receive a more adequate treatment than formerly. But there is the same dearth of effort to treat them scientifically, etc."

As I understand him now the gravamen of Prof. Spearman's charge against modern psychologists is not that they ignore the phenomena in question, but rather that they have not sought to bring these phenomena under any single comprehensive principle—an impossible task, in my opinion, since the phenomena are not all of the same order.

JAMES DREVER.

GRUNDLEGUNG EINER ÄSTHETISCHEN WERTTHEORIE.

DER in der Aprilnummer dieser Zeitschrift erschienene kritische Bericht über mein Buch: "Grundlegung einer ästhetischen Werttheorie" (S. 248) gibt meinen Gedankengängen eine Auslegung, die mich zu einer Reihe tatsächlicher Berichtigungen veranlassen.

1. Ich spreche nirgends von einer "metaphysischen Offenbarung" im ästhetischen Akt, lehne vielmehr aufs schärfste jede metaphysische Konstruktion im Sinne der idealistischen Aesthetik ab.

2. Ich frage keineswegs in der Weise Kants nach der Allgemeingültigkeit "ästhetischer Urteile," sondern ich untersuche phänomenologisch die Struktur des ästhetischen Evidenzerlebnisses.

3. Die Darstellung, wonach ästhetische Evidenz durch Subsumtion des Besonderen unter das Allgemeine eines Bewusstseinsgesetzes zustande kommt, unterschiebt mir einen Intellektualismus, gegen den ich fortgesetzt Stellung nehme. Ich selbst habe (S. 63) gebeten, den Vorwurf einer Vermischung der logischen und ästhetischen Sphäre bis zur endgültigen Entwicklung meiner Zonenschichtungslehre zurückzustellen. Diese Bitte ist überhört worden.

4. Die Redewendung, dass das Bewusstsein "sein Objekt schafft," kann nach dem Bericht allerdings nicht überzeugend wirken. Was ich unter dem Begriff des "ästhetischen Gegenstandes" verstehe, bleibt im Bericht unerörtert.

Meine Untersuchungen sind keine populären Plaudereien über ästhetische Dinge, sondern nehmen ihren Ausgang von einer bestimmten philosophischen Problemlage, wie sie in Deutschland durch die Phänomenologie Husserls geschaffen ist. Die hierdurch bedingte Terminologie darf für die Ratlosigkeit des nicht unterrichteten Lesers nicht verantwortlich gemacht werden.

DR. RUDOLF ODEBRECHT.

To the Editor of "Mind".

Dear Sir,

I am very sorry if I have misrepresented Dr. Odebrecht. But I cannot help feeling that, if so, it is not entirely my fault. I know that precision and originality may sometimes necessitate complicated language; but I thought, and still think, that in this case the complication is due to lack of precision, and that simpler language would have conveyed his meaning more clearly. Moreover, though my acquaintance with other phenomenologists is limited, I can also say, in reply to his last paragraph, that the writings of Ingarden, Hartmann, Linke and Husserl himself (in *Logical Studies*), though difficult, are not obscure.

Let me consider his four points one by one:—

1. Dr. Odebrecht denies that he speaks of a "metaphysical revelation" in æsthetic experience, and urges, on the contrary, that he condemns idealist æsthetics. I used the expression (and it was not in inverted commas) simply to mean "revelation of some reality not given in ordinary experience". My reason for using it was that Dr. Odebrecht regards works of art as "opening up a view into a sphere of consciousness hitherto undreamt of and indescribable in rational terms" (p. 187). Moreover, though the phrase "metaphysical revelation" may have been a bad one, it surely does not imply an idealistic interpretation of æsthetic experience.

2. Dr. Odebrecht objects to my saying that he wishes, in the manner of Kant, "to answer the *quid iuris* and to guarantee the universal validity of æsthetic judgments." The term "æsthetic judgment" was mine, but the following are quotations from page 11 of his book. "We must regard the aim of æsthetics as the erection of norms which shall make possible æsthetic evaluation with a right to universal validity." "From the beginning we shall regard the question of the evaluation of the æsthetic as a 'question of right'; that is, we leave the discussion of subjective preference-values entirely on one side, and frame our main question thus: 'How do contents of consciousness become æsthetically possible?'."

3. Dr. Odebrecht objects to my saying that æsthetic experience arises through "subsumption of a particular under the universality of a law of consciousness". In reply I would make three points: (i) The word "subsumption" does not occur in my review. I purposely used the term "ordering" because it is more general. (ii) In describing his view of æsthetic experience I used the phrase "an ordering of particulars in an *experienced organic whole*". (iii) In representing Dr. Odebrecht to hold that the structural law of consciousness is "the ordering of the particular into the universal," I am almost quoting him (*cf.* pp. 62 and 63). It is true I did not explicitly state that he finds important differences between scientific knowledge and æsthetic experience, and I am sorry if my exposition suggests that he denies them.

4. Dr. Odebrecht objects to my attributing to him the statement "consciousness creates its object" without discussing in sufficient detail the conception of "æsthetic object" which he holds. I admit that a fuller statement should have been given. Perhaps I may now repair the omission and express Dr. Odebrecht's account of the æsthetic object as follows: In looking at a picture which is a work of art, we should first experience emotions connected with situations which the picture represents. These should, when satiated, give place to a mood in which the spectator takes refuge in himself. Under the influence of this mood he can see the form of the picture, not as representative of situations, but as pure form. It is not the case, however, that the whole thematic content is lost—only its representative character. The æsthetic experience actually begins when

the pure form is "saturated" with the mood as coloured by the thematic residue. In this saturation the æsthetic object is created (see especially pp. 132-93).

HELEN KNIGHT.

A CORRECTION.

On p. 261 of MIND, No. 146 (April, 1928), the relation expressed by the words "is a *subfamily* of" would be better expressed by some other phrase such as "is a *subsystem* of". For the notion which I defined at the end of the note was, through a stupid mistake on my part, incorrectly described as "a *family*," whereas really it should have received some quite distinct designation such as "a *maximal system*". The term "family" should of course be used in the sense which the authors of *Principia Mathematica* have assigned to it. And this sense only coincides with the sense of "maximal system" in the special case where R is a one-one relation; in other cases more than one family may be included in a single maximal system.

On p. 260 two small corrections are required. For "R_{ho}" read "R_{po}". And the footnote should have had the number "1" prefixed to it, making it clear that it is a footnote and refers to section (3), and is not a continuation of section (4).

J. A. CHADWICK.